UNIVERSITY of
PENNSYLVANIA
LIBRARIES



Rittenhouse Orrery

MARIA HOSMER PENNIMAN
LIBRARY OF EDUCATION

PHILADELPHIA

MEDICAL TIMES.

A BI-WEEKLY JOURNAL

OF

MEDICAL AND SURGICAL SCIENCE.

VOL. XI.

1880–1881.

PHILADELPHIA:
J. B. LIPPINCOTT & CO.
1881.

UNIVERSITY OF PENNSYLVANIA LIBRARY

Entered according to Act of Congress, in the year 1881, by
J. B. LIPPINCOTT & CO.,
In the Office of the Librarian of Congress at Washington.

R
11 S5
M435 v.11, 1880-81
Cop 2

LIPPINCOTT'S PRESS,
PHILADELPHIA.

PHILADELPHIA, OCTOBER 9, 1880.

ORIGINAL LECTURES.

CLINICAL LECTURES

ON MALIGNANT DISEASES OF THE UTERUS.

BY WM. H. WATHEN, M.D.,

Professor of Obstetrics and Gynæcology in Kentucky School of Medicine, Louisville.

Reported by A. H. KELCH, M.D. (Stenographer).

LECTURE II.

TREATMENT OF UTERINE CANCER.

GENTLEMEN,—Until about thirty years ago no radical treatment was resorted to in these cases but the actual cautery, nor was there any that was supposed to be of any decided benefit except this. Afterwards, when Chassaignac invented the écraseur, these growths were amputated by it. Finally, when Middledorpf, of Breslau, devised the electro-cautery, the cervix was amputated by that means. It was amputated later by the knife or scissors; then, after the operation for amputation, escharotics were applied. The method now most highly recommended is to remove as much of the growth as possible, after the fashion which best suits our convenience, and then apply either the actual or the potential cautery. Until quite recently it has been customary, where the cervix was amputated above the diseased structure, simply to bring the mucous membrane over the stump of the amputated cervix and allow it to unite; but now this treatment has generally been abandoned, and in most instances where a cancerous growth is removed some form of cautery is applied. Dr. Sims takes strong ground in this direction. He claims that formerly, after amputation alone, the disease sooner or later invariably recurred; but that since he has followed the amputation by the application of some kind of cautery such is not the rule. Dr. Reamy, of Cincinnati, practises after this fashion.

Now, it seems to me that this is a little too extreme, and that there is no reason why the cancerous growth should recur any sooner after the entire removal by the knife, écraseur, galvanic cautery, or Wathen's serrated scissors, than it should after removal with the subsequent application of caustic; and I am confident that in those cases where Dr. Sims amputated the cervix and then found a constant recurrence of the trouble, the difficulty lay in the fact that he did not remove all the cancerous growth, and that his better success since is due to the fact that the cancerous growth left after the amputation is destroyed by the slough produced by the caustic. When we amputate the neck above the diseased structure and bring the healthy edges together, there results comparatively no cicatricial tissue,—we leave the cervix in a healthy condition; whereas after the application of caustic there is an immense deal of cicatricial tissue that is less able to resist the invasion or ravages of disease. We know that when disease is developed in the system it is most apt to attack that organ or part which has the least power of resistance, and for this reason we would conclude that malignant disease of the uterus would be more liable to recur after the amputation or removal followed by cauterization than after the operation of amputation alone. There is a difference of opinion as to the kind of caustic to be applied. One author has a preference for one, and another for another. Dr. Sims is partial to chloride of zinc; others have used bromine, and claim that this is better than any other. Some use the concentrated solution of sulphate of zinc; others, fuming nitric acid.

I can see very little advantage in one caustic over another, provided the caustic used will penetrate into the diseased tissue and produce a slough. Some think that bromine has a peculiar tendency to invade diseased structures. In the selection of a caustic, that which is most manageable and causes least pain, other things being equal, should be preferred. Nitric acid is more easily applied, more under our control, less likely to cause injury to surrounding structures, and causes less pain. Whatever kind be used, it must be applied thoroughly, must be brought into contact with every particle of diseased structure, and must be prevented from coming in contact with and injuring healthy tissues. If the amputation is to be performed when the disease has not extended up to the vaginal attachment, I consider no instrument so well adapted to the removal of the cervix as Wathen's serrated scissors. By its use hemorrhage is prevented and

351701

union of the cut edges occurs. After the amputation you may unite the intra- and extra-cervical mucous membrane, just as you would in amputation of the cervix for any other cause. When the disease has extended above the infra-vaginal cervix into the tissue of the supra-vaginal part, or through the internal os, then, of course, no amputating instrument will be available, and the proper procedure is to tear or cut this tissue away with the scoop, forceps, tenaculum, or scissors, or by any means, until all, if possible, is removed. In these instances it is difficult to cut away all the diseased structures, and you must be very careful not to invade adjacent organs or cavities. The disease often extends through the cervix almost out to the peritoneal investment, and unless you practise great care there is danger of cutting through into the peritoneal cavity. It is often better first to take the scissors and afterwards some sort of scoop or curette. On account of the severe hemorrhage that often complicates this operation, some instrument should be devised to accomplish this purpose better than any we have at present. If we had a scoop with evenly and sharply serrated edges, we could remove this tissue just as easily as if the edge was only sharp, and thus be able to prevent the hemorrhage to a considerable extent. So I would recommend a scoop somewhat similar to that devised by Prof. Thomas for the removal of uterine fibroids. With this you should continue carefully to remove the diseased structure until you have taken, if possible, every particle away. You can always detect if any remains, because it feels hard and gristly.

During the operation we must always be prepared for hemorrhage, and it is well to have two or three pairs of catch-forceps by which to pick up the little arteries as they begin to bleed. You ought to have several whalebone bougies or sounds wrapped with cotton and dipped in a saturated solution of alum or diluted Monsel's solution, which may be introduced into the uterine cavity, plugging the cervical canal if necessary. The operation should be performed as rapidly and with as much facility as possible. When it is over, if the hemorrhage is profuse you will have to control it by the application of styptic cotton. If it is not profuse, you may apply your caustic at once; in other words, if you can control the hemorrhage and bring the parts into a dry condition, you may then at once apply the cautery.

Often a little pledget of cotton wet in the persulphate of iron solution, or in a saturated solution of alum, and packed into the canal, will control it. If not, you may apply a number of vaginal pledgets wet in a weak solution of carbolic acid, so that the vagina is thoroughly and perfectly filled by the cotton. If the hemorrhage continues, you must remove the cotton and reapply the styptic and tampon. After twenty-four hours you may remove the lower third of the tampon. After the second day you may remove all, except that part in the cervical canal, which should be left in position until suppuration is set up and it is separated by that means. If you attempt to remove it by force, it being firmly adherent to the surface, there will be danger of furious hemorrhage. After the tampon has all come away, you must apply your caustic. If you select the chloride of zinc, it should be made in a strength of one drachm of the chloride to two of water, or of equal parts; or you may use bromine dissolved in alcohol, from one part to ten to one part to five; or you may use a saturated solution of sulphate of zinc, or pure fuming nitric acid. It is generally not necessary to use the chloride of zinc in greater strength than one part to two, or the bromine stronger than one part to ten of alcohol. When you use the bromine or the chloride of zinc, you should first wet your pledgets of cotton in the solution and squeeze them nearly dry, and then place them up in the cavity in contact with every part of the raw surface, in the form of a tampon. You now apply a cotton tampon wet in a solution of bicarbonate of sodium, so as to neutralize the bromine or chloride of zinc that may come out into the vagina. This has not the power of neutralizing it completely,—there is nothing known that will do so,—but in default of anything more effective we use this. Unless the precaution be taken to do this, the caustic may cause decided injury to the vaginal mucous membrane, and several days afterwards, when you remove the tampon, you will find the vagina hardened and contracted. The pain after the application is oftentimes very intense, requiring large doses of opium or morphia. Ordinarily we now have the pain nearly entirely under control by the hypodermic injection of morphia.

During this treatment the patient should be kept in the horizontal position. After thirty-six or forty-eight hours the tampon may be removed from the vagina; and again be careful not to disturb the little pledgets of cotton in the cervical canal upon which you have placed the caustic. Let them remain until suppuration has occurred, and they will of themselves come away in the course of four or five days. After they have come away you will find the surface of a dry, grayish color, and in the course of a few days you will have a slough coming away about one-sixteenth of an inch in thickness, leaving a healthy granulating surface, which will heal under the use of weak injections of carbolized water. You can bring the nitric acid directly in contact with every particle of the raw surface without injuring any of the healthy structures. You can apply it by wrapping a whalebone bougie or dresser with cotton, dipping it in the acid, and applying it up in the uterus, bringing it into contact with every part of the raw surface. You can have a solution of bicarbonate of sodium ready, so that if any of the acid comes in contact with healthy tissue it is immediately neutralized by the soda. As soon as the caustic applicator is withdrawn, introduce into the cervical canal another that has cotton wrapped around it and wet in a solution of bicarbonate of sodium, so it neutralizes any superabundance of the caustic within the canal. You may also pour the solution into the vagina, and in this way neutralize the acid. I have had no difficulty at all with the nitric acid, and have found it to produce no great amount of pain, and after it is used it leaves the surface in a healthy, granulating condition. Here it is proper to call your attention to the necessity of being very careful in operating upon and tamponing the cervical canal and uterine cavity, especially when the disease has extended out nearly to the peritoneal covering of the uterus. There are instances where the instrument in the operation has cut through the peritoneal coat of the uterus, also where the cavity was tamponed so tightly as to cause rupture directly through the walls; again, where this has not occurred, the circulation has been cut off, causing sloughing of the tissues. Be careful, then, not to press it in so tightly as to cause, either primarily or secondarily, an opening through the uterine tissue into the peritoneal cavity.

ORIGINAL COMMUNICATIONS.

THE TREATMENT OF DYSMENORRHŒA BY ELECTRICITY.

BY WM. R. D. BLACKWOOD, M.D.,

Attending Physician to St. Mary's Hospital.

(*Read before the Philadelphia County Medical Society, Sept. 8, 1880.*)

I HAVE often wondered how the idea became so universally prevalent among intelligent women that pain is an essential phenomenon of menstruation. Dysmenorrhœa is a wide-spread and intractable malady, and its treatment presents many difficulties to all practitioners, and insurmountable ones to those who are unskilled in surgery, for it is merely a symptom of abnormal uterine or ovarian condition, which, as ordinarily treated, requires mechanical correction in the majority of cases.

Four varieties may be conveniently recognized, although each author you consult may differ on this point. The first in frequency in my own cases is the *neuralgic*, which may be either ovarian or uterine in origin, and here pain is not confined to the pelvic organs, but invades other and distant regions, and is sharp and knife-like, with paroxysmal attacks of acute suffering. The higher class of patients, especially those young ladies who are popularly supposed to be "finishing their education," supply the greater number of such cases.

Next we have the *congestive* variety, found in those affected with coexisting uterine disorder of other type, caused by impeded circulation through direct or indirect pressure on the pelvic viscera, owing to errors in dress, habit, or occupation. Here the pain is dull, heavy, and aching, and is ordinarily confined to the pelvis and lumbar region. Married women who have had a bad "getting-up" after confinement, or who have repeatedly miscarried, are apt to be found in this class, which is second in frequency.

The third group includes the cases in which some *mechanical* obstruction exists, such as flexion or cervical stenosis. With this type we have pain preceding the appearance of the flow, and the suffering is intense. Establishment of the discharge usually greatly mitigates or abolishes the agony endured by this class. It may exist in single or married women, and in the latter it is generally accompanied by sterility.

The last and least frequent variety is the *membranous*. In this class the suffering is severe and continuous, ceasing only upon denidation or detachment and expulsion of the membrane through a forcible dilatation of the cervical canal either by surgical assistance or by the unaided effort of nature. The variety is, in my belief, rare, my own experience being limited to a single typical case, although practitioners have told me that they often meet with well-defined examples.

Many methods of treatment have been advocated, some entirely surgical and heroic in plan, others wholly medical, with frequently illogical leanings. All of them are liable to fail at times, and thus the prognosis is rendered doubtful. Any addition to our armamentarium under such circumstances is acceptable; and, if it presents evidence of value, a thorough trial should be accorded it,—not by a few, but by all who profess to treat this immensely difficult and common complaint.

No one agent, nor any series of combined remedies, has been so successful or so satisfactory to me as electricity in the treatment of all varieties of dysmenorrhœa; and yet, in view of the undeniable power to *relieve pain* of whatever kind which this invaluable therapeutic agent is known to possess, its employment has here been singularly neglected even by those who make medical electricity a specialty. In looking over a dozen works on electro-therapeutics I have found in them few subjects which have received less attention, and many comparatively trivial ones which have had much more. My own ideas on the merits of electricity are resultant upon a closely observed list of carefully recorded examples now numerous enough to afford stable ground for the statement made. As many of these cases date back fifteen years, and as the greater number of them have remained under my care during that period, I have had ample opportunity of watching the permanence of the results obtained,—a matter of exceeding importance, for a goodly proportion of them had been more or less benefited by treatment at the hands of physicians before coming into my charge, the improvement in their condition, however, being transitory. Among my earliest patients, and one of the worst to manage, was a lady whose case may be briefly stated.

Miss H. menstruated for the first time during her fourteenth year, being at that time a nervous, undeveloped girl. She had much pain periodically before menstruation was established, and this increased until she was compelled to spend the first three days of each period in bed. When I first saw her she was in her twenty-ninth year, and had endured fifteen years of martyrdom; for, although the dysmenorrhœa troubled her one-fifth of each month, she required almost all the rest to recover any degree of tone and comfort,—a miserable life to lead. She had been under varied professional care, with now and then very slight relief, before seeing me. She had undergone two attacks of pelvic cellulitis, undoubtedly resultant from the use of a stem-pessary, and naturally, therefore, she dreaded any local treatment. I found a sharp retroflexion, tender ovaries, irritable bladder, weary spine, feeble digestion, diffused neuralgia,—in short, a wreck.

With coaxing and careful method I went through the usual plans in vogue and somewhat relieved her general health. Tonics enriched her blood; massage of the abdomen and regular effort relieved her constipation; sun-baths with friction of the entire body brightened her spirits; but no amount of work of any kind relieved her flexion, and her monthly pain was nearly as bad as ever. I tried hard for eleven months to do her justice, and became thoroughly disheartened at my failure. One evening, when I had almost decided to throw up the case, she asked me why I did not try electricity, as I had with a friend of hers. I explained to her the difference between the cases, and doubted the advisability of employing the battery; but, for curiosity, I faradized her uterus and repeated the treatment daily during the week preceding her monthly period. Her menses appeared punctually, as they always did, but, for the first time in her life, *entirely without pain!* She was unwell eight days, an increase of two days in duration, and lost considerably more blood than at any previous time in her recollection. This peculiarity did not again happen; and I may here say that the phenomenon alluded to is not uncommon under electrical treatment, and it is usually confined to the first period. The flow is also frequently hastened, coming on a day or so too soon in some instances, or even a week anticipatory of the expected date. The regular course is, as a rule, thereafter at the habitual interval.

One week subsequent to the cessation of her menstruation I placed her under treatment again, using the induced current twice a week until the week before the next period, when the applications were made every second day. The result was precisely as before,—no suffering whatever. Nothing aside from electricity was administered. I now proposed discontinuing treatment, but she would not hear of it; and consequently the sittings were prolonged for the ensuing three months, when I insisted upon their cessation. She had by this time become a very different person in feeling and appearance. For fourteen months thereafter she had no difficulty whatever; but, owing probably to a wetting in a summer storm, she had a slight recurrence of uterine pain, and at once demanded a renewal of the applications. Keeping her under care a couple of months sufficed, and for many years she has been a thoroughly healthy and grateful lady. The flexion still exists, but is decidedly less rigid; yet all other difficulties are abolished.

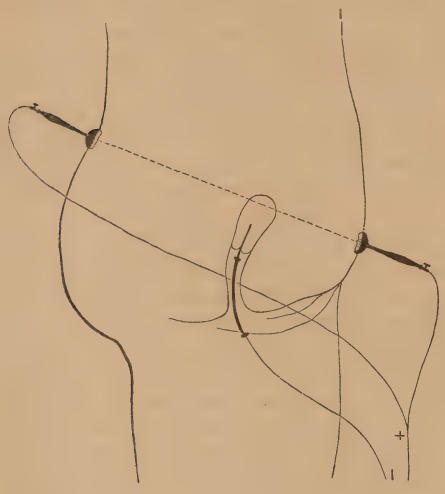
The case just related made a deep impression on my mind, and also started a train of others which gave further material for experiment. One of these was that of Miss R., a young lady nineteen years old, and a habitual sufferer. She was stout beyond the average, and had a congested uterus and leucorrhœa, with the usual attending symptoms. I tried leeching, scarification, and glycerin tampons to the cervix, applications of carbolic acid and iodine to the cervical canal and to the fundus in the intervals, together with full dilatation just before the period, associated with appropriate constitutional measures. Three or four months of similar manipulation helped her a little, but not much. Without losing more time, faradization was commenced, and improvement was decidedly established. Three months of bi-weekly applications cured her without any accessory therapeutic measures. She is a type of a numerous list in which similar results were attained.

Miss A. is a good example of the first class,—the nervous or neuralgic. She endured very severe local pain throughout her period, with associate facial and mammary neuralgia. Her womb was free from flexion, displacement, or congestion; the flow was promptly established at the proper time, and was normal in amount and duration; yet she was fast becoming a confirmed invalid. The list of antineuralgics was fully tested; phosphorus, cod-liver oil, malt, and such like brain-foods were pushed; but the sole relief was morphia hypodermically and in full doses. Induced currents were begun, and relief at once was had. Nevertheless, the desired result was not fully secured. Galvanism was therefore substituted, and soon thereafter the victory was complete. In all purely neuralgic cases, as in this, I have found galvanism notably superior to faradic electricity, especially in clinching the business after an impression has been made.

Mrs. F., an old personal friend, consulted me after considerable reluctance from excessive modesty, and she afforded me, as previously stated, the only opportunity I have had in twenty years of seeing a case of pure so-called membranous dysmenorrhœa. She suffered extremely from the commencement during four days, when the entire womb-lining would be discharged. She had dysmenorrhœa and endured decided cerebral congestion during the period. I had by this time a high opinion of the utility of electrical measures, and she went into training at once. Galvanism was tried first, but had much less good effect than faradization, which relieved the pain considerably and decidedly increased the molimen menstruale. The progress not being rapid enough to please me, and learning that various liquid caustic applications had been unsuccessfully employed before I took charge of her, I thoroughly cauterized the canal up to the fundus with the galvano-cautery, with a view of modifying the condition of the endometrium. This was done half-way between her periods twice in succession. The suffering was lessened very perceptibly, and she was thereafter kept upon tri-weekly faradizations of the uterus, with general and central galvanization. Her trouble steadily diminished, and in a year after commencing treatment she was almost entirely free from discomfort, with vastly-improved general health, and is now approaching the menopause with satisfaction to both doctor and patient. While I am willing to admit that the cauterization may have been an important factor, the failure of other caustic remedies in capable hands before I treated her, and the steady improvement under electricity alone, force me to believe her superb health thereafter,

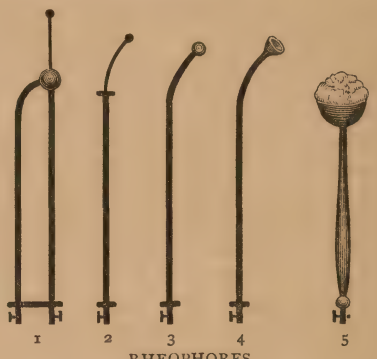
as compared with her miserable condition previously, to be due without doubt to the treatment under consideration.

Electrization of the uterus or ovaries must be accomplished by *direct* applications. The plan usually adopted of sending the current through the abdomen by placing one rheophore upon the hypogastrium and the other over the sacrum is useless, the current traversing almost entirely the skin and parietal muscles, especially in faradization. The better method is to use a bifurcated conducting cord for one pole, to which two sponge-holders are attached, one of which is applied to the hypogastrium and the other to the lumbar spine.



The other pole is then applied, through suitable rheophores, to the exterior of the cervix, to the cervical canal at any desired point, to the fundus, or to the ovary, which can be reached near enough by pushing the instrument well up on either side of the cervix. In retroflexion or version, one rheophore may be applied through the rectum, and in antero-displacement it can be directed through the bladder; but I have never tried this latter method as yet. The instruments which I exhibit are well adapted to fulfil the various indications.

No. 1 is intended to confine the current to the uterus alone. It enters through the straight rod (which is insulated its entire length), escapes at its upper uninsulated point, and, passing through the body of the womb, returns through the large uninsulated ball at the cervix and the curved rod to the battery. The intra-uterine rod is movable, to suit long or short canals. No. 2 is a modified sound, insulated all except the curved intra-uterine part, and is used in connection with No. 5, which is an ordinary sponge rheophore. No. 3 is a ball electrode, intended for applications to the os uteri or ovary, and No. 4 is armed with a cup instead of the ball within which the cervix is engaged. The ball and cup only in either are uninsulated.



RHEOPHORES.

To secure good results, the batteries and accessories must be of *good make* and kept in *good order*. For the constant or galvanic current the Electropoion or Leclanche cell is preferable. A very serviceable battery of my own design was described in the *Medical and Surgical Reporter* of July 31, 1880, which can be made by any one of moderate mechanical skill at a very low cost, and illustrative cases of its utility have been published at different times during the last four years in that journal.

The faradic instrument may be of any manufacture in which smoothness of current is secured. To run the coil without sudden jars, large-quantity cells are demanded, such as the Grenet, which is at once simple, durable, and easily managed, or the Smee. No true polarity, of course, exists in induction-currents as found in ordinary apparatus, except in the elegant machine of Mottershead & Co., of Manchester, England. The difference of intensity in the initial and terminal currents of an inductorium, the first (during closure of the primary coil) being the weaker, and the second (whilst it is open) the stronger, has been ingeniously balanced by Kidder, of New York, and equal alternating currents secured; but the expense is in excess of the utility. Whilst the direction is a matter of no moment in faradism, galvanic currents, which are definite

in direction, appear to produce differing results according as they are ascending or descending. In neuralgic cases the rheotome is necessary, and more or less frequent reversion of the current heightens its value; while in congestion a steadily downward and uninterrupted flow is apparently the better plan. A most valuable but neglected method in neuralgia, not alone of uterine origin but of all types, is the use of *static* electricity, from the Holtz or Bertsch machine, which will often succeed after failure of all other proceedings.

Time will not at present permit any explanation of the *rationale* of electro-therapeutics as applied against dysmenorrhœa. There is, however, nothing empirical in this method of treatment, although superficial reasoning might lead to the idea that radically diverse conditions cannot be relieved by one and the same procedure. A little reflection will show that the action of many prominent drugs is at times diametrically opposite in effect; as, for instance, opium, quinia, and belladonna. At a future time this branch of the subject may be taken up.

The examples given of successful treatment can be multiplied, except only in the membranous variety. My object in this paper is not to decry other measures or to find fault: it is to enlist interest in a method at once simple, reliable, and effectual, though wofully neglected, probably because professional knowledge of electricity is largely confined to faradic currents from machines of doubtful construction and utility. Thus limited failure is inevitable, for galvanism is indispensable in many cases, in my belief, although such high authority as Duchenne has insisted on the availability of induction-currents in all instances and in all diseases for which electricity is employed.

The study of electro-therapeutics demands time and patience. All its branches must be explored and mastered in their details. Lack of care in looking after batteries is a common fault. They are allowed to rust and eat themselves up between-times, and, necessarily failing to work properly when needed, they are shortly consigned to oblivion, and electricity is thereafter a humbug! If more thought were given to the matter, the added therapeutic power thus obtained would make the physician the master of disease where now he is frequently impotent, and one of the most useful servants we possess—if not the best—would be, in the hands of intelligent gentlemen, a boon to the suffering, whilst at present it lies disgraced from being relegated to quacks and impostors.

246 North Twentieth Street.

A NEW MYDRIATIC.

BY HENRY S. SCHELL, M.D.,

Surgeon to Wills Hospital; Ophthalmic and Aural Surgeon to the Children's Hospital.

HOMATROPIN hydrobromate, manufactured by E. Mercke, of Darmstadt,* bids fair to be a very valuable addition to the resources of the ophthalmologist. Heretofore, in the treatment of iritis and other ocular complications, and in examination of difficulties of refraction, reliance has been placed almost wholly upon atropia and duboisia. Both of these are, indeed, invaluable, but both, nevertheless, have some properties which often render their use inconvenient, and even distressing.

Atropia sulphate, for instance, when used daily for some length of time, occasionally produces a granular condition of the tarsal conjunctiva, which inflames the cornea and sadly interferes with recovery. When used to suppress the accommodation, during an inquiry into the state of the refraction, the effects of a single application often last for ten days, and, in consequence of the dilatation of the pupil and the inability to focus the eye upon near objects, the patient remains for that length of time practically blind so far as reading, writing, or other close occupation is concerned, and subject also to the well-known disagreeable feelings attendant upon the entrance of a flood of light into the unguarded eye. In addition to this, so large a quantity of the drug is often required to produce the desired local effect that the general system becomes involved, and the patient suffers from constant dryness of the throat and mouth, flushing of the face, acceleration of the circulation, feelings of languor, and even from nausea and vomiting.

Duboisia sulphate is more convenient for use in examinations of the refraction, as its action is quicker and its effects sooner over. These last only about one-

* Imported by Henry C. Blair's Sons & Co.

half as long as those of atropia. But in the use of duboisia, also, we are often obliged to employ so much locally that the patient is made to feel giddy, sometimes to such an extent that it is unsafe to let him go into the streets alone for an hour or more.

Homatropin promised so much better results that I was led to make with it the following series of experiments:

Exp. I.—W. T., aged 43, had been accustomed for a year or two to wear $+\frac{1}{42}$ for reading or writing. Left eye tested. With $+\frac{1}{42}$ can read $1\frac{1}{2}$ Sn. at 11″. Diameter of pupil 3 mm. 9.16 A.M., instilled two drops of a four-grain solution of homatropin hydrobromate. Patient complained that it produced a slight stinging sensation. There is a little reddening of the conjunctiva.

9.27 A.M., instilled two drops.

9.35 A.M., with $+\frac{1}{42}$ reads No. 3 Sn. at 14″. Pupil 5 mm.

9.40 A.M., with $+\frac{1}{42}$ reads No. $3\frac{1}{2}$ Sn. at 14″. Pupil 8 mm. With $+\frac{1}{30}$s ⊃ $+\frac{1}{30}$c, axis 90°, $V = \frac{20}{XV}$?

The next day, at 9 A.M., with $+\frac{1}{42}$ read No. $1\frac{1}{2}$ Sn. at 14″. Pupil 4 mm. Reported that he could see to read and write with comfort at 2 P.M. of the day before.

Exp. II.—M. F., aged 18, a strong, healthy girl. Ophthalmoscopic examination through the undilated pupil disclosed hypermetropia of at least $\frac{1}{16}$. Right eye, $V = \frac{20}{XXX}$? Reads D .50 Sn. from 13 to 40 cm. Pupil 3 mm.

11.40 A.M., instilled two drops of homatropin hydrobromate, four-grain solution.

11.45 A.M., two drops.

11.50 A.M., reads D .50 Sn. from 17 to 48 cm. Pupil 3 mm.

11.55 A.M., two drops.

12 M., reads D .50 Sn. from 18 to 42 cm.

12.5 P.M., two drops.

12.10 P.M., cannot read. Pupil 6 mm. $V = \frac{20}{C}$.

12.15 P.M., two drops.

12.20 P.M., pupil 7 mm. $V = \frac{20}{C}$?

12.25 P.M., two drops.

12.30 P.M., pupil 8 mm. Slight congestion of conjunctiva. $V = \frac{20}{CC}$.

12 35 P.M., two drops.

12.45 P.M., two drops. Patient complains of some smarting in the eyes.

12.50 P.M., $V = \frac{10}{CC}$. With $+\frac{1}{10}$s $V = \frac{20}{XXV}$.

The next day, at 9.30 A.M., she read D 1.25 Sn. at 15 cm.

The following day two drops of an eight-grain solution of atropia sulphate were instilled. An hour after $V = \frac{10}{CC}$. With $+\frac{1}{9}$ $V = \frac{20}{XXV}$.

This case demonstrated the difficulty of entirely overcoming the accommodation, in high degrees of hypermetropia, with a weak solution of the mydriatic. It is evident, however, that sufficient time was not allowed to elapse after the final instillation before the test was made of the total hypermetropia. It is probable that twenty minutes later the testing would have agreed with that determined two days later under atropia.

Exp. III.—Miss C. V. C., aged 27, a weak and nervous lady, with a quick, irritable pulse. Right eye, $V = \frac{20}{XXXV}$. Left eye, $V = \frac{20}{XXV}$. Reads $1\frac{1}{2}$ Sn. at $6\frac{1}{2}$″, nearest point of distinct vision. Pupil 4 mm. Experiment made with an eight-grain solution of homatropin. 9.46 A.M., one drop put in each eye; 9.48, one drop each; 9.50, repeat; 9.52, repeat. No smarting complained of. Conjunctiva not reddened. Dilatation of pupil commenced at 10 A.M. 10.8, pupil 7 mm. Smallest type which can be read, No. $3\frac{1}{2}$ Sn.; near point 11″. 10.10 A.M., reads $1\frac{1}{2}$ Sn. with $+\frac{1}{10}$ at 8″; therefore Ac. $\frac{1}{40}$. 10.20, pupil 8 mm. $V = \frac{20}{XXXV}$.

Right eye, $+\frac{1}{36}$s ⊃ $+\frac{1}{48}$c, axis 90°, $V = \frac{20}{XV}$.

Left eye, $+\frac{1}{42}$s ⊃ $+\frac{1}{48}$c, axis 90°, $V = \frac{20}{XV}$.

She appeared quite well when she left my office, at the close of the experiment, and denied feeling any dryness of throat or other unpleasant symptoms. She did not reappear, however, until the day but one following, when she stated that she had suffered much from dryness of the throat and lips, headache, and nausea during the entire interval. As her menses, however, had also returned, it is possible that some of the symptoms may have been natural enough under the circumstances. She stated that she could see to read the day after the eyes had been tested, and, upon examination, I found that she could again easily read No. $1\frac{1}{2}$ Sn. at $6\frac{1}{2}$″.

Exp. IV.—B. H., aged 17, a muscular young man. The ophthalmoscope showed a high degree of compound myopic astigmatism. Near point for No. 1 J. was 3″. Pupils 3 mm. Four drops of an eight-grain solution were placed in each eye at 8.45 A.M. At 8.55 his pupils measured 4 mm., and his near point had receded to 6″. At 9.15, pupils 8 mm.; near point 6″. The error in refraction of the right eye was found to be corrected by $-\frac{1}{7}$s ⊃ $-\frac{1}{18}$c, axis 165°, $V = \frac{20}{XXXV}$; left eye by $-\frac{1}{8}$s ⊃ $-\frac{1}{14}$c, axis 180°, $V = \frac{20}{XXXV}$.

In this instance the weak ciliary muscle quickly gave way under the influence of the mydriatic. The iris responded less readily. No unpleasant local or general effects were observable.

Exp. V.—A. M., a healthy girl of 15. She had suffered from asthenopia, and I had

examined her right eye a few days before under atropia, with the result of determining an error of refraction, which was accurately corrected by $-\frac{1}{48}$c, axis 90°. Upon this occasion the left eye was examined. V = $\frac{20}{XX}$. Near point for No. 1 J. 5 in. Pupil 5 mm. 9.40 A.M., two drops of eight-grain solution; 9 42, two drops; 9.50, reads as before; pupil 6 mm. Slight congestion of conjunctiva and sense of smarting in the eye. 10.10 A.M., pupil 7 mm.; reads $2\frac{1}{2}$ Sn. not nearer than 8″; V = $\frac{20}{XX}$. Repeat drops. 10.20 A.M., same condition. Repeat drops. 11 A.M., reads No. 12 J. at 11″; V = $\frac{20}{XX}$. Repeat drops. 11.30 A.M., V = $\frac{20}{XXV}$. With $+\frac{1}{60}$c, axis 180°, V = $\frac{20}{XII}$. The next morning, at nine o'clock, it was found that she could again read $1\frac{1}{2}$ Sn. readily, and that she had suffered no inconvenience from the drug.

Exp. VI.—W. S., a gentleman of 31; looks delicate; an artist by profession. Had suffered from asthenopia, in consequence of which I had examined his right eye a week previously, under the influence of duboisia sulphate, and found an error of refraction, which was corrected by $+\frac{1}{60}$ s. ⊃ $+\frac{1}{60}$ c. axis 90°. V = $\frac{20}{XII}$. Left eye, V = $\frac{20}{XXX}$. Near point for No. 1 J. at 5″. Pupil 5 mm. 10.05 A.M., instilled four drops of an eight-grain solution of homatropin. 10.10, repeat. No smarting or congestion of conjunctiva. 10.30, cannot read No. 1. Reads $3\frac{1}{2}$ Sn. at 24″. Pupil 7 mm. V = $\frac{20}{XXXV}$ with $+\frac{1}{42}$ c. axis 105°. V = $\frac{20}{XII}$. 10.45, repeat instillations (four drops). 11.15, same results. The next day at 9 A.M. he read $1\frac{1}{2}$ Sn. at 13″ with difficulty, No. 2 with ease at 12″, with left eye. Pupil 6 mm. He complains that he was wakened in the night by neuralgic pain in the left eye, extending over the temporal region of the same side. The pain had continued, with increasing intervals of relief, to the time of his visit, when there was but little left. He had had a similar attack in the right eye after the use of the duboisia, but not so severe. On the following day he reported that the pain had quite disappeared by 2 P.M. of the day previous.

The large quantity—twelve drops—used in this case probably caused the attack of pain,—an attack which may hint at a glaucomatous tendency in the individual, and, at any rate, serves as a warning note in that direction. There were, however, none of the other signs present which characterize the glaucomatous condition.

Owing to the inconvenience in practice connected with the use of so large a number of drops in the eye, the strength of the solution was doubled, and the following experiments were made with a liquid containing sixteen grains to the fluidounce of distilled water.

Exp. VII.—L. W., a girl of 8 years. Has difficulty in studying on account of her eyes. V = $\frac{20}{XXV}$ in each. Examined by means of the undilated pupil, the ophthalmoscope shows a hypermetropia of at least $\frac{1}{10}$ in each. The smallest print she can read is $5\frac{1}{2}$ Sn., near point, with both eyes, 4″. Pupils 4 mm. 4.15 P.M., one drop in each eye. 4.23, repeat. No smarting or suffusion of the conjunctiva. 4.45, pupils 8 mm. V = $\frac{6}{CC}$ each; with $+\frac{1}{7}$ V = $\frac{20}{XXV}$. As there was a possibility that this was not the total hypermetropia, one more drop was put in each eye at 5 P.M. 5.30, pupils as before, with $+\frac{1}{6}$ V = $\frac{20}{XXV}$ in each eye. There was no dryness of throat or other unpleasant symptoms, although this child received a fifty per cent. larger dose of homatropin than the lady mentioned in Exp. III. At 9.25 A.M. next day she could again read $5\frac{1}{2}$ Sn. at 6″ with the naked eyes. V = $\frac{20}{XXV}$. Pupils 7 mm. To make assurance doubly sure, I instilled one drop of an eight-grain solution of atropia sulphate in each eye, and examined them both again at the expiration of an hour, with the same result as that obtained on the previous day.

Exp. VIII.—W. G., a robust gentleman of 45 years. Eyes had commenced to fail in reading. Reads $1\frac{1}{2}$ Sn. at 15″ with both eyes. Pupils $2\frac{1}{2}$ mm. Right V = $\frac{20}{XVIII}$. Left V = $\frac{20}{XXV}$. 10.7 A.M., put two drops in each eye; followed by slight congestion of the conjunctiva. 10.19, repeat drops. More congestion. 10.22, reads $3\frac{1}{2}$ Sn. at 24″. 10.25, reads $6\frac{1}{2}$ Sn. at 24″. 10.45, right V = $\frac{20}{LX}$. Left V = $\frac{20}{XC}$. Right $+\frac{1}{36}$s. V = $\frac{20}{XII}$. Left $+\frac{1}{48}$s. ⊃ $+\frac{1}{72}$c. 75° V = $\frac{20}{XII}$. Pupils 6 mm., and immovable. 11 A.M., one drop in both, to ascertain if any hypermetropia is still latent. 11.30, results as before. At 10 A.M. next day irritation of conjunctiva had disappeared. With correcting-glasses reads $1\frac{1}{2}$ Sn. at 15″. Pupils 5 mm. Right eye V = $\frac{20}{XXV}$. Left eye V = $\frac{20}{XXX}$.

Exp. IX.—B. J., a girl of 14 years. Has difficulty in reading. Right eye V = $\frac{20}{LX}$. Left eye V = $\frac{20}{C}$. Reads nothing smaller than $2\frac{1}{2}$ Sn. Near point 5″. Pupils 6 mm. 9.26 A.M., one drop in each eye. 9.28, repeat. 9.30, repeat. 10.02, right eye V = $\frac{20}{C}$. Left V = $\frac{20}{CL}$. Pupils 8 mm. Right eye

with $+\frac{1}{30}$s. ⊃ — $\frac{1}{18}$c., axis 180° V = $\frac{20}{XXV}$. Left eye with $+\frac{1}{20}$s. ⊃ — $\frac{1}{8}$c., axis 180° V = $\frac{20}{XXV}$. 10.40 A.M., applied one more drop to each eye. 11.15 A.M., refraction as before. No dryness of the throat. No congestion of conjunctiva.

The next day, at 9 A.M., she read 2½ Sn. at 6″ with the unaided eyes. Pupils 6 mm. Has had no dryness of throat or other discomfort.

Exp. X.—M. F., a school-girl, 15 years of age. Right eye V = $\frac{20}{XX}$. Reads D. 1 Sn. at 9.64 cm. as near point. Pupil 3 mm. A four-grain solution used; seventeen drops put in the eye, at the rate of one per minute. Smarting and congestion of conjunctiva produced.

The accommodation began to yield with the eighth drop,—that is to say, at the end of eight minutes. Total suppression was not obtained, the amount of the mydriatic used not being sufficient. The pupil attained its maximum dilatation, 8 mm., in twenty-three minutes after the first drop was applied.

Exp. XI.—This experiment was made with the last-mentioned patient, and two days later than the previous trial. Its object was to determine how soon after complete paralysis the ciliary muscle commenced to regain its powers. A four-grain solution was used. Two separate instillations, of ten drops each, were made in the right eye, the first at 7 A.M., and the other at 7.30 A.M. 8 A.M., V = $\frac{20}{L}$. Ac. = O. H. = $\frac{1}{36}$. 9 A.M., V = $\frac{20}{L}$. 10.30 A.M., V = $\frac{20}{XL}$. 11 A.M., V = $\frac{20}{XXX}$. 2 P.M., V = $\frac{20}{XXV}$. 6 P.M., V = $\frac{20}{XX}$.

The accommodation, therefore, commenced to reassert itself in three hours from the time of the last instillation, and was fully restored in ten hours and a half, for at six o'clock she could read D. 1 Sn. at 10 cm.

These experiments appear to justify the following conclusions:

1. Homatropin hydrobromate is not well adapted to the treatment of inflammatory or traumatic affections of the eye, on account of the conjunctival irritation it produces.

2. It is especially adapted to the production of that temporary dilatation of the pupil and paralysis of the ciliary muscle which is so often required in examining the condition of the refraction.

3. The best solution to use is one containing sixteen grains to the fluidounce of distilled water. From one to five drops of such a solution may be required to produce the desired effect, according to the strength and activity of the ciliary muscle.

4. Under the influence of a full dose the pupil attains its maximum dilatation in about twenty minutes.

5. With a full dose the accommodation begins to fail in about ten minutes and is usually totally suppressed in a half-hour, although exceptional cases may require an hour. This total suppression lasts about three hours; the accommodation then gradually recovers itself, and is fully in action again at the end of from ten to thirty hours from the time of the last instillation.

6. The local action of the mydriatic is not accompanied by any unpleasant effects upon the general system.

ON SCLEROTOMY IN GLAUCOMA.

BY M. LANDESBERG, M.D.,
Philadelphia.

OF all operative procedures which have been devised in order to supplant iridectomy in glaucoma, sclerotomy is the only one which deserves our consideration. By sclerotomy we are to understand a distinct operation, which consists in making a section of the sclera at the sclero-corneal border, without excision of the iris, avoiding the prolapse of the latter. Sclerotomy I have performed with section in the sclero-corneal border, as if about to make a scleral flap for linear extraction of catarrh. In the majority of cases I left a scleral bridge; in some instances the section was completed and a conjunctival flap formed. The section was made with Von Graefe's knife, in the most cautious manner, in slow, drawing motions of the knife, which was cautiously withdrawn, allowing the aqueous humor to escape, but very slowly. A compressive bandage on both eyes was applied until the wound was perfectly closed. Instillations of extract of calabar or of eserine were freely used, both before and after the operation, in order to bring about the utmost contraction of the pupil. In no case have anæsthetics been administered.

Of the thirty-five cases of glaucoma in which I performed sclerotomy, there were

7	cases of	glaucoma simplex;
10	"	" subacutum;
2	"	" acutum;
1	case of	" fulminans;
5	cases of	" inflammatorium chronicum;
10	"	" absolutum.

The result of the operation in the different forms of glaucoma was as follows:

A.—GLAUCOMA SIMPLEX.

(The most insidious form, which sets in and takes its course without any inflammatory symptoms; a form in which iridectomy also often fails to check the morbid process.)

In one case the primary result was very favorable. Intraocular pressure and pupil became normal, and vision increased from $\frac{15}{50}$ to $\frac{15}{30}$; but after three months glaucomatous attacks again set in.

In another case, in which iridectomy made five months before was of no avail, sclerotomy succeeded in checking the morbid process; but intraocular pressure remained pathologically increased, and vision did not improve.

In two cases intraocular pressure became normal, but pupils remained dilated, and vision decreased from $\frac{15}{100}$ resp. $\frac{15}{200}$ to $\frac{10}{200}$ resp. $\frac{5}{100}$.

In one instance the operative intention did not succeed. Prolapse of iris occurred during section, which necessitated iridectomy.

In two cases there was complete success. Intraocular pressure became normal, pupils of good reaction, and vision increased from $\frac{15}{70}$ resp. $\frac{15}{40}$ to $\frac{15}{50}$ resp. $\frac{15}{30}$.

B.—SUBACUTE GLAUCOMA.

In one case sclerotomy caused immediate decrease of intraocular pressure, but acute glaucoma set in during the healing process, which necessitated iridectomy.

In two cases intraocular pressure did not decrease consequent upon the operation. Hemorrhages repeatedly occurred; wound burst, causing prolapse of iris. Iridectomy checked the morbid process in one instance; in the other, the final issue was phthisis of the eyeball.

In one case the result was very favorable. Intraocular pressure became almost normal, and vision increased from $\frac{15}{100}$ to $\frac{15}{70}$.

In two cases, of which in one instance iridectomy had been made six weeks before without any avail, a small prolapse of iris occurred during section, the reposition of which, however, succeeded perfectly. The result was very good. Intraocular pressure became normal, and vision increased from $\frac{5}{100}$ resp. from counting fingers at 9′ to $\frac{10}{100}$ resp. $\frac{20}{70}$.

In two cases prolapse of iris occurred during section, the reposition of which did not succeed. Iridectomy was performed.

In one case, in which the glaucomatous process reappeared in spite of two iridectomies, sclerotomy brought perfect success. Intraocular pressure became normal, and vision increased from counting fingers at 5′ to $\frac{5}{200}$.

In one case, in which I had performed iridectomy for acute glaucoma eleven months before, sclerotomy gave a perfect result. Intraocular pressure became normal, and vision increased from $\frac{10}{200}$ to $\frac{20}{70}$.

C.—ACUTE GLAUCOMA.

In a case of acute glaucoma consequent upon serous iritis, sclerotomy brought perfect recovery, with restitution of normal vision.

In a case of genuine acute glaucoma, sclerotomy was followed by immediate improvement in the condition of tension and vision, but from the third day of the operation glaucomatous attacks set in again. Iridectomy was of no avail. Iridocyclitis developed, evolving into phthisis of the eyeball.

D.—GLAUCOMA FULMINANS.

(A rare form, which breaks out suddenly without any premonitory symptoms, and in which the course is so rapid that vision may be entirely lost within a few hours,—even within a few minutes.)

This form was observed in a patient consequent upon instillations of a few drops of atropia into the eye. Sclerotomy, performed on the day of the occurrence, brought perfect restitution *ad integrum.*

E.—CHRONIC INFLAMMATORY GLAUCOMA.

In four cases the course of the operation was normal. In one case a small prolapse of iris occurred during section, the reposition of which succeeded perfectly. Intraocular pressure became normal in three cases, and remained slightly increased in two cases. Vision improved

from	counting	fingers	at	5′	to	15′;
"	"	"	"	3′	"	20′;
"	"	"	"	5′	"	15′;
"	"	"	"	3′	"	6′;
"	"	"	"	$\frac{5}{200}$	"	$\frac{10}{100}$.

F.—GLAUCOMA ABSOLUTUM.

In all these instances vision was irreparably lost, and sclerotomy made only for the

purpose of checking the further progress of the disease, viz., to abate the irritative symptoms and to cause decrease of the intraocular pressure.

Immediate perfect success was obtained in six cases, in three cases of which iridectomy had been made two or three years before without checking the morbid process. Symptoms of irritation subsided, and intraocular pressure became normal.

In two cases, of which one showed ribbon-shaped opacity of the cornea, the inflammatory symptoms subsided entirely, but tension remained slightly increased.

In one case the normal course of operation was followed by violent symptoms of irritation and by frequent intraocular hemorrhages. The wound was forced open, and prolapse of iris took place. Iridectomy broke the acme of the morbid process.

In one instance sclerotomy had to be repeated after seven weeks, when the glaucomatous attacks, which had been checked by the first sclerotomy, reappeared. The final result was good. All symptoms of irritation subsided. Intraocular pressure became normal.

The facts show that sclerotomy shares with iridectomy the faculty of diminishing the intraocular pressure, checking the glaucomatous process, and securing a certain restitution of the function of the eye. Certainly, this aim is not always attained, and sclerotomy shares with iridectomy its failures. The very great advantage which sclerotomy has over iridectomy consists in this, that by leaving the iris intact the operation is not accompanied with so many drawbacks (impairment of vision, dazzling, etc.) as present themselves in iridectomy. Which *rôle* sclerotomy will play in the therapeutics of glaucoma—whether it will totally supplant iridectomy or limit only the indications for the latter operation—the future alone can tell, when a truer insight into the nature of glaucoma will enable us to decide upon the best method of treatment.

For the present, summing up the results of my observations, I do not hesitate to put forth sclerotomy as the first indication in the following conditions:

1. In glaucoma absolutum.

2. In secondary glaucoma, and in glaucoma-like conditions of the eye, as observed in iritis, serous choroiditis, in certain forms of keratitis, etc.

3. In all cases of glaucoma in which iridectomy had been made and the reappearance of the glaucomatous process necessitates the repetition of the operative procedure.

1912 Arch Street.

THE RESULTS OF A TEST FOR COLOR-BLINDNESS AT GIRARD COLLEGE.

BY W. S. LITTLE, M.D.

DURING April, 1880, the boys at Girard College were tested by me for color-blindness; ages ranging from 6 to 18 years; 845 boys were examined. The test employed was Holmgren's method with colored worsteds. Of those that were found defective a re-test was made to confirm the work, and the same result was attained. This is hardly necessary, as it brings the persons who are found defective into too much prominence among their associates. One boy was tested four times, failing each time, his teacher being hard to convince, as he gave the proper names to the color exhibited in the class-room, showing that when a color is held up to a class, with the statement that it is a given color, each person associates the name with the sensation it produces, and yet it may appear differently to the individuals observing it.

Color-blindness is divided, according to the Young-Helmholtz theory, into—

1. Total color-blindness;
2. Partial color-blindness.

Partial color-blindness is divided into—

1. Complete color-blindness;
2. Incomplete color-blindness.

Complete color-blindness is divided into—

1. Red-blindness;
2. Green-blindness;
3. Violet-blindness.

Incomplete color-blindness exists where an inferior excitability for all three elements, red, green, or violet, or for one in particular, is present.

The condition existing under partial color-blindness, complete or incomplete, where red- and green-blindness is found, is the subject of much investigation at present, in order to arrive at the possible average of its presence among men, so as to avoid the dangers to which it exposes travellers, as red and green colors by day and night are employed on railroads to signify danger and safety, and also on

vessels at night to indicate their position. Army and navy orders are sometimes required to be conveyed by means of colored signals, and the knowledge of any color-defect is also important to youth in the selection of a trade or avocation in life. "Color-Blindness, its Danger and Detection," by Dr. Jeffries, goes fully into the whole subject. The result of examinations made thus far shows about 1 in 25 among males color-blind to a greater or less degree.

The result of the test at Girard College is as follows:

Boys examined, 845. Complete and incomplete, 38; 4.497 per cent. Complete, 29; 3.431 per cent. Red, 17; 2.011 per cent. Green, 12; 1.420 per cent. Incomplete, 9; 1.066 per cent.

The presence of 4.497 per cent. is little above the average.

There were three cases of apparent indifference to all colors, their ages being respectively 6 years. A general deficiency in everything besides color prevents me from quoting them as cases of total color-blindness. I shall test these boys when they have increased in years and ability. I also found nine cases of violet-blindness and three cases of yellow-blindness.

Two brothers were color-blind. I have been unable to learn concerning the other members of this family.

There were in all 53 with color-defect, but only 38 are quoted as belonging to the dangerous element of color-blindness. The acuity of vision of the color-blind was tested, though the one is independent of the other. Of the 38 cases, 17 had full acuity of vision, and 21 were defective.

Of the 53 (almost all forms of color-defect), 24 had full acuity of vision, and 29 were defective. The examination was made without mydriasis.

I examined many of the color-blind with each eye separately, and of those examined found color-blindness for both eyes. As has been stated, it is possible to be color-blind in one eye and not in the other.

I am much indebted to President Allen, of Girard College, and the officers of the institution, for the facility given me in conducting the test; also to Dr. R. J. Hill, U.S.A., for his assistance.

The boys, on leaving the institution, are sought for in various trades and in the merchant marine, and a knowledge of their defect would prevent them from making a choice where the want of full color-sense might stand in the way of their success.

The engraver's art affords a successful field for the color-blind, where shading is necessary, and, as they are very sensitive to shade, the defect can be made useful to art.

219 South Seventeenth Street.

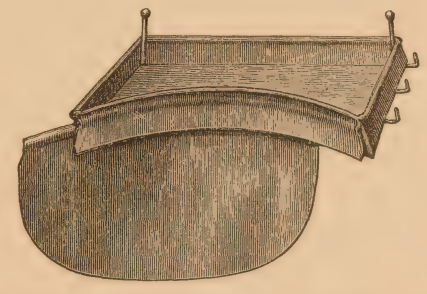
A PORTABLE SURGICAL TRAY AND A NEW UTERINE TENACULUM.

BY W. W. KEEN, M.D.,

Surgeon to St. Mary's Hospital, Philadelphia.

A PORTABLE SURGICAL TRAY.

DURING an operation surgeons are frequently annoyed by losing an instrument in the folds of a blanket or by its falling on the floor, where it may be spoiled by losing its point. Moreover, even a small table alongside is often in the way, especially when many assistants are needed, as, for instance, in operations in the uterus, when one assistant must hold each leg, another uses the sponges, and another, it may be, holds a tenaculum. To obviate some, at least, of these disadvantages, I have devised a portable surgical tray, to be fastened to the body of the operator. The



material is stout tin. It is ten inches long, four and a half inches wide in the middle, and six and a half at the ends. Its sides incline one-fourth inch inward. It is one and one-fourth inches deep. At the two front corners two wire posts project one-half inch above the tray, to prevent instruments longer than the tray from falling out; the point being in the tray, the post catches the handle. At each end are three hooks of wire each doubled upon itself, so as to make a smooth end. On these scissors, dressing-forceps, ligatures, etc., can be hung. The piece *a*, as is seen, slides horizontally, and can be thus easily re-

moved and replaced. This is not a necessity, but is only to facilitate packing the tray in a smaller space. For hospital use *a* can be soldered firmly to the tray. To fix it to the body a strap two and a half inches wide is buckled over the vertical piece *a*, and to prevent the straps from sliding down there is a slight horizontal shelf of tin one-quarter inch wide in front of *a*. For many operations such a tray is not only useless, but would be seriously in the way; but for most gynæcological and other operations, when the operator is seated, as in operations on the ear, nose, throat, etc., it will be found of great use. When operations require different sets of instruments at different steps, the tray will be convenient to hold those needed at the moment. In hospitals, too, unless Morton's hospital dressing carriage is used, the tray will be very useful in passing with the residents from bed to bed. It has been made for me by Austin & Opdyke, 1705 Chestnut Street, and costs $1.50 for the tray alone.

NEW UTERINE TENACULUM.

When a tenaculum is used, either the operator is deprived of one of his hands for other purposes, or else an assistant must use it, in which case his hand is often very much in the way. This tenaculum is one and a half inches long, and has two hooks. Of course the size of the instrument and the number of hooks can be varied at will. The peculiarity of the instrument is that it has no handle. Instead of this it has an eye, which is threaded with wire. The tenaculum is then inserted into the uterine lip by means of dressing or other forceps, the wire is drawn right or left, and fastened by winding it around some suitable part of the speculum. If such suitable projecting part be only on one side, a slight groove can be nicked in the edge of the speculum at any point and the wire be passed first through the groove. By this means both of the surgeon's hands are free, no assistant is needed, and the needed space is not narrowed by any band.

THE Provident Dispensary at Leicester, England, contains 25,000 members, and has an annual income of $20,000.

DR. J. E. MICHAEL has succeeded Dr. Miles as professor of anatomy in the University of Maryland.

TRANSLATIONS.

SPINA BIFIDA IN ITS ETIOLOGICAL AND CLINICAL RELATIONS. — A. Wernitz (*Inaug. Diss., Dorpat;* from *Cbl. f. Chir.*, 1880, p. 506), as a result of his studies and experience, comes to the following conclusions:

Spina bifida, better known, according to its degree, as rachischesis, meningocele, myelocele, or hydro-meningocele, is one of the commonest congenital deformities, one infant in every thousand showing it (in Germany). It is rarely the cause of difficult labor. Of ninety children with spina bifida, not operated upon, the greater number died within the first week, only twenty passing the age of five years. In his dissertation, Wernitz speaks of the hereditary relationships, the various forms, and the seat of the deformity. As regards the latter point, the author gives a tabular description of two hundred and forty-five cases. From this it appears that the lumbar and sacral regions were affected in one hundred and twenty-seven cases, the sacrum alone in fifty-three cases, while the affection is only rarely met with in other regions of the spine. The author gives an account of the nature of the trouble under its various forms, together with the complications which may arise with hydrocephalus, anencephalus, congenital club-foot, etc. He concludes this portion of his subject by describing anterior spina bifida in which the bodies of the vertebræ show openings. He also speaks of the pathological anatomy of these tumors, the normal anatomy of the sacral region and its relations with the spinal cord, from which it appears that the former often extends deeper in spina bifida than in the normal condition. The cause for this is to be sought in the circumstance that the spinal cord, which in the two-months' fœtus fills the entire spinal cavity, and in spina bifida adheres to its membranes in the neighborhood of the sacrum, is stretched by the growth of the vertebral column. By the simultaneous pressure of the tightened membranes in the upper border of the defect in the vertebræ, the opening may probably widen above, while diminution of pressure causes the vertebræ which touch it to tend inwards. With regard to the cases where the spinal cord is entirely wanting, Wernitz inclines to the opinion that while the medullar portion has developed

properly the cord has not developed. As to the cerebro-spinal fluid, the question whether the hydrostatic pressure is increased or not is settled that in some cases an increase is observed. Communication exists between the central canal of the cord, the ventricles and subarachnoidal spaces of the brain, so that a tendency inward of the spina bifida tends to give rise to hydrocephalus.

The author's description of the diagnosis and prognosis is given in the original at too great length to cite: it may be noted, however, that certain cases are mentioned in which tumors of the sacral region have been extirpated, having been taken for lipomata, and which turned out to be meningoceles covered with fat. Under the head of etiology, the author, after going extensively into the developments of the spine and spinal cord, and comparing the normal condition with that found in preparations of diseased tissues, comes to the conclusion that an arrest of development is evident which leads to the defect in the bony canal and the formation of the meningocele. As to treatment, compression, ligature, puncture (alone and with injections), and excision are all fully described, together with a case of Koch's, in which excision, followed by a plastic operation, cured the defect entirely. Statistics of the various operations are added, by which it appears that puncture, with injection of iodine, is the most successful.

Stricture of the Rectum.—From a review of Dr. Ceccherilli's work on this subject, in the *Jour. de Sci. Méd. de Louvain* (1880, p. 357), we learn that this author rejects strongly the method of forced dilatation proposed by Simon, of Heidelberg, above all as a diagnostic means. He prefers digital examination, or, if this is insufficient, the sound or the speculum. With regard to spasmodic stricture of the rectum the author concludes, after a careful examination of testimony, that the affection is to be regarded as a rectal neuralgia, not to be confounded with that painful spasm which occurs during defecation when the rectal bolus distends an anal fissure. The author does not absolutely deny the existence of idiopathic spasmodic stricture, although it cannot be affirmed in any given case that some slight superficial fissure may not exist in a fold of the anal mucous membrane. In the chapter devoted to the pathogenesis of hyperplastic strictures caused by syphilis, he concludes, after a careful examination of the opinion of well-known authors, that these are simply the result of a gumma. In a valuable chapter on therapeutics the author expresses little confidence in cauterizations, and colotomy he objects to entirely. Between the two ordinary means of treatment, incision and dilatation, he prefers internal incision and adopts rapid dilatation.

Esmarch's Bandage in the Removal of Fibrous Abdominal Tumors. — At a recent meeting of the Académie de Médecine (*Le Progrès Méd.*, 1880, p. 649), M. Labée read a communication relative to a modification of the operative procedure of hysterotomy applied to fibrous tumors (exsanguification of the tumor). Gastrotomy for the removal of fibrous tumors of the uterus is now a well-established operation, and M. Labée did not attempt to describe it, but simply called attention to an important modification which he has introduced into the operative procedure. The quantity of blood contained in these enormous tumors of the uterus is always considerable, and the loss of blood consequent upon the ablation of the tumor is a factor the importance of which it is impossible not to recognize, especially when it is considered that the women from whom these tumors are removed are always in a state of advanced cachexia. M. Labée conceived the idea of using Esmarch's bandage in these cases, with the view of pressing back into the general circulation as much as possible of the blood contained in the tumor, that this might be retained in the economy. The first patient on whom the plan was tried presented a rather hopeless prospect, being in a deplorable condition before the operation. She succumbed to septicæmia six days after its performance. But M. Labée was able to satisfy himself that the enormous fibroma on which compression had been practised was completely deprived of blood, more than a litre of blood having thus been restored to the system. M. Labée suggests that long needles or skewers should be fixed in the walls of the tumor at proper points to prevent the bandage from slipping off.

Treatment of Varices by Perivenous Injections.—This method was introduced by Dr. Marc Sée. M. Chabert, in a thesis recently published (*Bull. Gén. de*

Thérap., vol. ii., 1880, p. 90), gives the following points in the procedure. A hypodermic syringe with a very fine trocar is employed, the fluids ordinarily used being liquor ferri perchloridi diluted to $\frac{1}{30}$ and mixed with a little water, or else alcohol of 90°. The patient having been confined to bed for several days previously, the skin over the vein is pinched between the thumb and finger, so as to facilitate the introduction of the trocar, which should be made to penetrate the perivenous cellular tissue. Then one to three drops of the iron solution or one to two drops of alcohol are injected at a distance of five to twelve millimetres from the vessel (a quarter to half an inch). Several injections may be made around the varicose vein at different points. Two, or even one, however, will usually be sufficient. When the injection is made, the patient feels a sharp pain at the point of puncture; this pain occurs again for some days after, if not spontaneously, at least on pressure. In twenty-four to forty-eight hours the course of the vein becomes hard, painful to the touch, and slightly swollen. Dr. Chabert concludes as follows. 1. Varices are sometimes sufficiently serious, even when uncomplicated, to necessitate curative treatment, especially in the case of working-people, who are sometimes completely disabled. 2. When varices are complicated, especially by ulcers, the necessity for treatment is even more urgent. 3. Among the methods of treatment ordinarily employed, cauterization appears to have been most successful; but intravenous injections of perchloride of iron, to which may now be added perivenous injections of the same, appear to offer every chance of success, with much less danger to the patient. 4. This plan of treatment, however, needs to be followed out and the results carefully noted, as enough is not yet known of the remote results.

ARNICA.—From physiological experiments made by M. Planat, he was led to use arnica in acute superficial inflammations, such as erysipelas, angina furuncle, etc., and was so successful that he believes that arnica will abort furuncles with the most extraordinary promptness. He excepts, however, that form of furuncle which he denominates diabetic furuncle. The remedy is prepared and applied in the following manner:

Extract of fresh arnica flowers, ten grammes; honey, twenty grammes; powder of lycopodium, sufficient to make a paste of proper consistency to spread.

This is spread upon adhesive plaster and applied to the furuncle. Renew the plaster every twenty-four hours. Internally, give twenty-five to thirty drops of the tincture of arnica every two hours. The effect, M. Planat says, is so rapid as to leave no doubt of the special value of the remedy. —Bouchardat: *L'Abeille Médicale.*

OXALIC ACID AND OXALATE OF POTASSA IN DIPHTHERIA.—As soon as the diphtheritic deposit is perceived, Cornilleau directs the following prescription to be taken:

℞ Oxalic acid, gr. xxiii;
Infusion of green tea, ℥iv (Troy);
Syrup of bitter orange peel, ℥i (Troy).

A teaspoonful every three hours. A tea prepared by adding five ounces of fresh sorrel leaves to a quart of water, a half-cupful, or less, according to the age of the patient, to be taken at a time, every hour or so, is also advised.

After the third day of treatment a marked improvement in the condition of the patient has been observed, and convalescence generally occurs at the end of the first week. When the disease assumes the intermittent form, Dr. Cornilleau prefers the bromohydrate of quinia, given hypodermically. A tonic regimen should be maintained, milk, broth, wine, coffee, etc., being freely allowed. — *L'Abeille Médicale.*

ACTION OF COLLODION ON THE TEMPERATURE.—Dr. Raducan (*Bull. Gén. de Thérap.*) has investigated the influence excited by the application of flexible collodion to the surface. He finds that applied to the limbs it does not alter the central temperature, but applied over the peritoneum or pleura a notable lowering of the central temperature is at once obtained. There is no question that the influence of these applications in phlegmasiæ of the extremity is very favorable.

APPLICATION FOR CHANCRE.—

℞ Perchloride of iron, 12 grammes;
Citric acid, 4 grammes;
Distilled water, 24 grammes.—M.;

or—

℞ Citric acid,
Muriatic acid,
Perchloride of iron, } āā 4 grammes;
Distilled water, 32 grammes.—M.

—Bouchardat: *Courrier Méd.*

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, OCTOBER 9, 1880.

EDITORIAL.

WITH the present number the *Philadelphia Medical Times* begins its eleventh volume. It was originated by the Philadelphia medical profession, led by the feeling that there was no journal of its class which represented the medical thought and progress of a city which yields to none in America as a centre of professional activity. How far the hopes and desires which gave birth to the *Times* have met their fulfilment it is not for us to say; but we can point to the fact that at present nearly every Philadelphia medical society of importance publishes regularly through our columns. Surely this is no mean endorsement.

The supply of papers from the profession of the city has been steadily increasing, until during the last year it has become actually embarrassing and has threatened to crowd out material received from other parts of the country. Fortunately, at this juncture we are able to announce that, in the opinion of our publishers, the time has come for an increase in the size of the journal from an issue of twenty-four to one of thirty-two pages, *without increase of the subscription-price* (four dollars a year). By this means sufficient room will be obtained for all contributions; and, whilst the *Times* will continue to be the chosen exponent of the Philadelphia medical profession, it will also be able to draw, for the support of its columns and the benefit of its readers, from all portions of the United States.

DEATH FROM ETHER.—Mr. R. N. Hartley reports a case of sudden death during etherization by arrest of respiration. The patient was in a condition of great feebleness and suffering from obstruction of the bowels.

REVISION OF THE UNITED STATES PHARMACOPŒIA.

THE committee on the revision of the United States Pharmacopœia held, recently, a very important meeting at Saratoga. The tone of the discussions was, very properly, conservative, and it was decided to make no important alterations in nomenclature. Several new classes of preparations were adopted and one or two dropped. Of the former the more important were *Abstracts* and *Elixirs*. Abstracts, proposed by Professor Remington, of this city, are to be of the nature of extracts, but are dry powders so concentrated or mixed with inert material as to preserve a definite relation to the crude drug: we understand that they are to be twice the strength of the fluid extracts. This innovation seems to us a good one. There was a regular battle over elixirs, but finally their friends won the day by a vote of nine to eight. The closeness of the contest, we trust, will influence the number of the preparations. Elixirs are mostly frauds, not containing what they purport to do, manufacturing chemists having long ago discovered that the easiest and cheapest way of disguising strychnia, quinia, etc., is to allow them to penetrate only so far as the label of the bottle, or, at best, to be present in the syrup in very small amount. The wise physician who has a Xantippe of a wife takes an elixir, but for the use of the laity the prescription is of doubtful utility. We would have preferred such a name as Syrupus Aromaticus and Syrupus Curaçoa for the vehicles, which, it seems to us, should be the only medicines of the class introduced into the officinal list. The number of individual drugs and preparations which it was decided to elide from the present standard list was quite large: for obvious reasons we do not enumerate them here, especially as the decision is probably not final. It was decided that fluid measure should be employed for fluid extracts, and that the

formulæ should be such that one cubic centimetre of the preparation should represent one gramme of the crude drug. This differs theoretically five per cent. from the old strength of a minim to the grain; practically there is no difference between the two standards.

Dr. Squibb was at the meeting, and battled in vain against the elixirs. Possibly disgusted at this, and certainly overburdened by his private responsibilities, he positively enforced the resignation which he had from the first threatened, and Prof. Emil Scheffer, of Louisville, was elected in his place. Professor H. B. Prescott, of Ann Arbor, Michigan, was elected to the position vacated by the withdrawal of Professor Wormley.

It will be seen that the work on the revision goes along cheerily, with every prospect of being well done. It is yet too soon to be assured as to the time of completion, but we should think the book would be out early in 1882, or possibly by the close of next year.

CORRESPONDENCE.

LONDON LETTER.

THE nervous system is the main object of scientific medical attention at the present day. The experiments of Fritz and Hitzig, elaborated and worked out fully by Professor Ferrier, F.R.S., have drawn many other observers to work at the same subject, while the clinical observations of Dr. Hughlings Jackson have created quite a new school of clinical observers and teachers. Charcot's work also is of the highest value, as every one admits. There is coming out soon a work on the diseases of the nervous system, by Dr. James Ross, of Manchester, in which the evolution of the different portions of the brain and spinal cord is contrasted with the retrograde ravages of disease, which will excite the keenest interest. It will be illustrated by numerous magnificent engravings, which will add to its value. Though Dr. Ross has published little so far, he is known to be one of our best workers, and in the hurry and bustle of existence in the manufacturing area in which he resides disease of the nervous system of every variety and kind is rife, and affords him excellent opportunities for observation,—opportunities which he has not neglected, as will soon be apparent. Then, again, the study of the brain as "the organ of mind" is also now in the ascendant, and evolution is causing many old-established and generally-received views to undergo criticism and modification. Consequently it was with peculiar interest that I recently read a lecture, delivered by Dr. Hughlings Jackson some five years ago, on "Softening of the Brain." Up to a few years ago brain-decay, mental and motor, was promiscuously and indifferently spoken of as softening of the brain. Rokitansky described two forms,—"yellow" and "red" softening,—but few practitioners were influenced by what the great pathologist had to say, and a hazy impression prevailed that there was a general softening—such as the brain undergoes as a post-mortem phenomenon—going on in life in certain cases of brain-decay. Now, in the face of this impression, it may be well, and will be found instructive by many of your readers, to review what Dr. Jackson says in this lecture, which he lent me for perusal some few weeks ago.

He says we frequently hear the term "softening of the brain" used by educated patients who simply suffer slight and often but temporary nervous exhaustion, but who apprehend this organic change is coming upon them. It is also in use by medical men as a name for a certain rude clinical grouping of symptoms in cases in which there is really no softening. This group of symptoms he puts thus: "We see patients who have become excitable, irritable in temper, and desponding; they have found that their attention easily fails, and that they cannot do their accustomed work; they usually sleep badly; they have often what they call headache, but it is mostly not an ordinary headache, either in kind or position; it is a feeling of pressure, or sometimes of burning, and its seat is the vertex or the back of the head; there is very often, indeed, a disagreeable feeling at the occiput and in the upper parts of the spine more distressing than pain,—an intolerable physical feeling; the queer feeling in the spine is often intermittent, and frequently comes on slowly with great depression of spirits. Altogether, there is a strange mixture of 'mental' and 'physical' symptoms." This "group of symptoms" is described here by Dr. Jackson with a fidelity which every one of experience must recognize.

His explanation of these symptoms is that they "indicate nervous exhaustion, beginning often in the sympathetic nervous system, and secondarily affecting the nutrition of the highest centres in the brain. Of course this is only hypothetical, for there is no morbid anatomy of such cases." Excesses of various kinds, but still more misery or overwork, especially when the work is done under responsibility, are the chief exciting causes of this state. In the graver, more prolonged, and ingravescent cases he thinks there is not

softening of the brain, but rather greater firmness of it,—an atrophy of nerve-cells and fibres, with increase of connective tissue. He says, "Be sure there is no softening in these cases." And again (and this is an expression of opinion which ought to receive the greatest consideration from every thinking reader, as it certainly deserves it), "So far as I know, cerebral softening is always local. I know nothing of general or universal softening of the brain." Probably this announcement will seem strange to many, for it is made without qualification; and if Dr. Jackson does not know anything of general or universal softening of the brain, then no one else is likely to know anything about it. A certain amount of softening following encephalitis is found around tumors and other adventitious products, but this belongs to a distinct category. "The cases which deserve to be called cases of softening are cases in which there is blocking up of cerebral arteries, or—which is infinitely rarer—of cerebral veins. Of these only shall I speak," he goes on to say.

The portion of the brain most liable to softening is that supplied by the "middle cerebral" artery: hence hemiplegia and affections of speech are the symptoms most to be trusted in the diagnosis of cerebral softening. When perfect hemiplegia comes on in a quarter of an hour, without loss of consciousness, in a patient past middle age who has not renal disease, we are practically certain of local cerebral softening. There is in these cases softening by thrombosis,—a commoner cause of local softening than embolism. This is certainly not the group of symptoms ordinarily understood as pathognomonic of softening of the brain. The wide-spread impression that there *must* be general mental symptoms if there be "softening" is an error. Of course, "softening" such as is here described may have been preceded by evidence of brain-impairment in the group of symptoms given above, or may be followed by them, but in neither case do these symptoms directly depend on that softening. There is, however, one mental symptom in this local softening, and that is loss of speech. Deep coma may arise from blocking of the middle cerebral artery, as deep as that produced by large cerebral hemorrhage. Dr. Jackson says, significantly, "Affection of speech is a mental symptom. A person who has lost speech has lost a part of his mind." If the trunk of the middle cerebral artery be blocked, then there is very extensive softening, and a state very like imbecility, as well as loss of speech, follows; the patient's power of expression in all ways, and even the exhibition of states of feeling by smiling, may be gone. General mental symptoms may follow upon this typical case: "A patient about fifty has become hemiplegic without loss of consciousness. This is the symptomatic statement; the pathological statement is that he has local cerebral softening." In a little time the patient may begin to wander, although he can pull himself together and clear his mind of his fancies, and can reply to ordinary questions when required. He wanders about his business or other matters familiar to him, and so may mistake strangers around him for persons to whom he is accustomed. There is an automatic state of mind. As "evolution" is the development of the mind, so here there is "dissolution" or a reducing process, commencing in the higher centres first. Especially is this liable to happen when a low-diet treatment is adopted, and the arterial tension is insufficient to supply properly with blood the parts farthest from the heart. As such brain-mischief is very apt to happen to those who "every day for years have eaten and drunk far too much," such line of treatment is very apt to be selected. The arteries of the brain have long been growing degenerate, and the nutritive supply to the brain defective. The active mental symptoms are due to brain-starvation really.

It is quite clear that active mental symptoms cannot be set up in a part which has *lost* its functional power. There is then impaired power in the highest or controlling centres, and then the lower or automatic centres escape from their control. "In any general lowering of health the very highest nervous arrangements are the first to fail (principle of dissolution). The positive or active symptoms—the illusions, delusions, and grotesque actions—are owing to the action of the lower nervous arrangements, which, except for over-excitement *permitted* by the loss of control, are healthy (principle of loss of control). When a man is delirious—his negative state—I repeat that his highest nervous arrangements in the cerebrum, the substrata of consciousness, are more or less put out of use; he has defect of consciousness." Here Dr. Jackson puts a difficult matter with marvellous lucidity. We can see how delirium shows itself from debility or asthenia, whether in febrile or non-febrile disease, and how it should be more found in sleep, in dreaming, in less severe cases than those where it is present during the waking state. It is not the evidence of vascular turgescence of the highest centres, but of asthenia in them, associated with anæmia. "It is a grave error in any case to put these symptoms down to meningitis, encephalitis, or to any kind of primary head affection. It is a deplorable error if it leads to severe purgation, to blistering the back of the neck, leeches, and low diet. The characteristic symptoms of encephalitis, meningitis, and acute brain disease generally are not mental, but physical. Thus, besides gross motor affections, convulsion, and paralysis, there are alterations of circulation, respiration, temperature, and constipation, vomiting, etc. Do not forget this seeming paradoxical statement, that the trust-

worthy symptoms in the diagnosis of acute and primary disease of the organ of mind are physical, and that the untrustworthy symptoms for that diagnosis are mental." So much for the positive symptoms of "softening of the brain" as they actually occur in reality, and contrasting as they do with those signs of mental impairment which are generally supposed to indicate that lesion.

General mental symptoms may develop weeks or months after an attack of softening, but they follow at too long an interval to be attributed to the local damage done by the softening. A general mental and bodily failure often follows a severe attack of hemiplegia the result of local softening. It is not due to the softening, or to any extension of it; it is probably a result of secondary atrophy of the whole or of a large portion of the hemisphere in which the local softening lies. Such secondary atrophy may also follow clot or other large cerebral lesion. When mental deterioration does follow, it shows itself both intellectually and emotionally. There is loss of power in connected thought on difficult, novel, or complex subjects; that is, the patient is soon confused. Then there is moral degradation: the patient exhibits peevishness and selfishness,—childish characteristics. On "the principle of dissolution" the highest centres go first; those faculties last acquired by the race and by the individual are then the first to go. Then, patients with cerebral deterioration are easily excited, because the deterioration is most pronounced in the controlling processes. The more slowly these mental changes develop, the better; the more rapid, the worse the lookout. The inferiority of a brain as regards its moral qualities is readily demonstrated in disease: it is irritable, ready to take offence, shows bad temper and greediness. Better brains have a reserve of good feeling, and it takes a longer time for the work of dissolution to degrade them. This mental aspect of disease of the brain is very useful in clearing our impressions as to the minds of persons in health. Inferior brains reveal themselves in confusion and inability to see their way in anything new or complex; so disease soon lowers them.

To return to the pathological aspect of the subject. Excluding softening about tumors and other gross lesions, Dr. Jackson knows nothing of softening of the brain except that resulting from blocking of cerebral vessels; as to "extension of softening," he knows nothing of it except in the very simple sense of its resulting from new blockings up of arteries near those formerly blocked up. He lays stress on the fact that softening of the brain is an "arterial," not a "nervous," disease proper. Pathological changes commence in the arteries or in the connective tissues, not in the nerve-tissue proper. The nerve-tissue suffers, but is not primarily at fault. It is therefore hard to see how any mental changes which may have preceded softening could produce it; they may precede it, of course. He thinks, and a very painful recent experience gives weight to what he says, that overwork or anxiety may lead to that condition of brain—that is, excitability while there is wide-spread degeneration of the cerebral arteries, and thus a worse nutrition throughout the brain—before the actual softening of some part as the result of one of these rotten arteries being blocked up by thrombosis. Consequently modifications of the patient's ways may precede a local softening. It is often spoken of by the patient's friends as "alteration of the disposition;" irritability and selfishness are predominant. "This prior condition of ill nutrition does not lead to *general* softening, however slight we may suppose that softening to be," so far as he knows. He then goes on to review the general condition of patients whose cerebral arteries are liable to be blocked up. It is well to inquire into the state of the heart, arteries, and urine when a patient presents himself because he cannot use his arm or leg. "Suddenly-occurring and transitory slight symptoms, such as affections of speech, unilateral numbness, may be owing to little foci of softening (or, rather, to thrombosis of small arteries, which in due time lead to softening), just as much as permanent paralysis may be due to extensive softening. Of course, the slighter the symptoms, the more need is there practically to consider many possibilities, for slight symptoms are not necessarily so easy of explanation as grave symptoms often are. Slight and transitory hemiplegia—which we are warranted in putting down to blocking up of very small arteries—is often hastily ascribed to general states of ill health,—for example, to affection of the liver, etc. At the same time, it is only an inference that such slight and transitory paralytic symptoms depend on small foci of softening, for there is no, or practically no, morbid anatomy of such slight symptoms."

Now, in this lecture Dr. Hughlings Jackson has told us, with much perspicuity, what is the pathology and what are the clinical phenomena of softening of the brain; he has not only taught us much positively, but also much negatively. He has told us that the group of phenomena, physical and mental (especially the latter), which have been in the past regarded as pathognomonic of softening of the brain, are not associated with any such lesion. He has told us, in decisive language, that he does not know any general symptoms of brain-softening, and that when that morbid change does occur the phenomena manifested are motorial, not mental. So far, so good. But will some authority on diseases of the nervous system kindly tell us what is known, or even believed, about the pathological condition underlying that group of symptoms given with such fidelity by Dr. Jackson, and quoted

in the early part of this letter, which our forefathers, our immediate predecessors, and even the bulk of the present generation, call "softening of the brain"?

J. Milner Fothergill.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

A CONVERSATIONAL meeting was held at the hall of the College of Physicians, Philadelphia, September 8, 1880, Dr. Albert H. Smith, President of the Society, in the chair. Dr. W. R. D. Blackwood read a paper on the "Treatment of Dysmenorrhœa by Electricity" (see p. 3), which was received with marked attention. He illustrated the lecture with large diagrams, and exhibited a number of special electrodes of his own design for use in uterine electro-therapeutics, with others adapted to general purposes.

DISCUSSION ON THE ELECTRICAL TREATMENT OF DYSMENORRHŒA.

Dr. Charles K. Mills said that he had found the faradic current very serviceable in young girls where the menses were slow in appearing, and where nervous symptoms and pain were present: in such cases the rheophores, well moistened, were applied externally over the sacrum and above the pubes. In dysmenorrhœa electricity is also very useful, but will not succeed in all cases.

Dr. W. R. D. Blackwood, in reply to a question, said that he had used electricity in cases of menorrhagia, although not very often, as the effect, though marked, is temporary. Faradism produces, undoubtedly, instantaneous contraction of the uterus, and in post-partum hemorrhage is very effective. For this purpose a battery made by Drescher, of New York (an improvement upon the small Gaiffé instrument) is well adapted, and can be carried in the pocket or the satchel. Where bleeding threatens to become extensive, he constantly resorts to this expedient, and always finds it to produce rapid and complete contraction of the uterus, which, moreover, remains contracted.

The speaker had never seen the hemorrhage made more profuse by electricity. In cases of dysmenorrhœa the flow is decidedly increased in quantity, especially at the first period after its application; it is less so at subsequent periods, but even at first is not excessive or sufficient to cause any alarm. When amenorrhœa follows a prolonged sea-voyage the application of electricity produces very marked effects, the flow coming on very soon after the proper use of the battery, the electrical sound being preferably employed in the uterus. By the use of the same instrument with a strong galvanic current through zinc rheophores he had been able to produce a caustic effect upon the mucous membrane: indeed, in one case of membranous dysmenorrhœa he had heated the galvano-caustic porcelain-tipped sound, and, passing it along the entire uterine canal, produced the effect of the actual cautery. The case was at once relieved, and subsequently entirely recovered.

Dr. Henry Leffmann, referring to the diagram, observed that it appeared as if, with the double pole instrument, there must be a loss of electricity, according to the axiom that where there are two parallel currents of electricity there is a loss in the strength of the current.

Dr. J. L. Ludlow agreed with the lecturer concerning the want of appreciation of electricity among the profession generally. With reference to the subject under consideration, he believed that neuralgic cases of dysmenorrhœa would be more likely to be benefited by electricity than any other variety, as they also are less amenable to treatment by ordinary methods. He mentioned two cases where a change of locality was followed by entire relief from dysmenorrhœa, which, however, reappeared when the patients returned to the city. He could only attribute the relief in the first instance to the change of residence and the electrical condition of the atmosphere.

The President said that he would like to ask the lecturer to explain, in the application of the galvano-cautery in the case of membranous dysmenorrhœa to the entire internal surface of the uterus, whether he wished to be understood as saying that he resorted to the caustic application of high heat, or the stimulating effect of a lower degree of temperature.

In regard to the use of electricity in the treatment of uterine troubles the President acknowledged that his views had been materially modified within a few years, and he now feels less enthusiastic on the subject than he did earlier in his practice. He had generally found immediate relief from the pain and other symptoms; so that very high hopes were entertained by the patients of permanent relief. They were delighted with the trial, but he had very seldom seen their expectations realized, and in some cases the depression of spirits caused by the disappointment did the patients more harm than the electricity had done them good. He had never used the double electrode described by the lecturer, having only employed the stem or a small metallic globe in contact with the uterus, the other electrode being a large sponge placed externally over the hypogastrium or in the sacral region; by varying the position of the external pole the objection of one of the former speakers could be obviated.

There is no danger of increasing hemorrhage. He had never known it to produce any trouble, nor is there any contra-indication to its use. He had always looked upon elec-

tricity in this application as chiefly a local anæsthetic, and had found it to give much relief to cases of dysmenorrhœa. In many cases, however, the pain begins after the flow has begun, which makes the application practically unavailable.

In reply to a question, the President said that the anæsthetic effect, or the relief from the pains of dysmenorrhœa, was very decided after the first application; the second time, the effect was much diminished, and it gradually diminished until finally there was no effect whatever. This had been his own experience; but he was glad to hear that the lecturer had been more successful.

Dr. Blackwood, in closing the debate, said that he had never had a case in which the results had proved that electricity had done any harm. He would not say that electricity is the sole remedy, or that it is to be used in every case; but under proper conditions it will be successful after the failure of all other treatment. In hundreds of cases he had used it without any evidence of injury and with *permanent* success. Many such instances are of ten years' standing. It hastened the appearance of the menses at times, and usually increased the quantity of the flow at first, but not to excess. He had seen cases, just like those mentioned by the President, in which immediate benefit was not attained in the early applications, but he had found that ultimately these cases do well if the treatment is persevered with. Treatment should not be discontinued after a few trials, but it must be persistently applied for eight or ten months, or longer, until decided relief is obtained. Of course some exceptions may exist to this rule. As to the time of application, he had very rarely used electricity after the flow had become established unless pain is then present, when, if the suffering is severe, the battery is employed. Galvanism and induction currents have the power to relieve the pain of dysmenorrhœa, just as they alleviate any other pain. He had found electricity capable of relieving the muscular pains of remittent and intermittent fever, either by general galvanization, according to the plan of Beard and Rockwell, or by applications through the solar plexus.

The objection of Dr. Leffmann does not hold good against the plan proposed of doubling one of the poles, the other being in the uterus. There is no loss of current and there are no parallel currents as thus applied, and the entire current must pass out through the uterine tissues by way of the intra-uterine sound, which is insulated to the point where it enters the uterine canal.

In conclusion, he said that he was satisfied that by persistence in the treatment, with proper apparatus, and especially by using the galvanic current, electricity can relieve, and that permanently, ninety per cent. of cases of dysmenorrhœa. Those most likely to be relieved are the neuralgic patients; the next most frequently treated with success are congestive cases. In the latter the uterus can be brought to its healthy condition without the use of any constitutional remedies or caustics. In a case of endometritis with excessive congestion, recently under his charge at St. Mary's Hospital, the uterus had been much reduced within two weeks.

In replying to the question as to the application of the actual cautery, he said that he had used the porcelain button at a low heat, which he had passed throughout the length of the uterine canal. The case had been thoroughly cauterized previously by the usual remedies, but without effect. She had no more casts after the use of the electricity, and has now reached the menopause in perfect health.

In some cases the speaker uses other remedies besides electricity in the treatment of uterine troubles. Ergot and viburnum prunifolium had given him good results. He had brought the paper before the Society for the purpose of insisting that by persisting in the proper, systematic, and thorough application of electricity we can cure the majority of cases of dysmenorrhœa and greatly relieve the rest.

On motion, a vote of thanks was given the lecturer for his interesting paper.

RENAL CALCULUS.

Dr. William T. Taylor reported the following case. On the 30th of August, 1880, he was, early in the morning, called to see a patient suffering with intense pain in the lumbar region on the left side, which, though relieved by anodynes, returned several times during the next few days. The pains radiated from the left side and went to all portions of the body. On the fourth day the pain seemed to be located in the bladder, which was quite irritable. The patient was ordered diluents and diuretics, and on the morning that the report was made he passed a small stone from the urethra, which was presented, and, on motion, referred to the Committee on Microscopy for examination.

HEMORRHAGE CAUSED BY ACID NITRATE OF MERCURY.

Dr. Charles B. Nancrede said that he had two interesting cases to report. The first one illustrated the disadvantage of the practice of some practitioners of at once applying the acid nitrate of mercury to all sores upon the penis. He had been called in consultation to see a case of alarming hemorrhage from the dorsal vessels of the penis, following the above treatment. He was obliged to secure both dorsal arteries by acupressure. He subsequently had some return of the hemorrhage, but it was readily checked. Sloughing also followed, which opened the urethra, and required a plastic operation. The patient subsequently recovered, and has had a healthy

child, so that in all probability the first lesion was not syphilitic.

A CASE OF SUBLUXATION OF THE SCAPHOID BONE.

The second case is that of a man who fell from his wagon and struck his hand. It was thought to be merely a sprained hand by the resident physician, but when examined a few days later it was found that there was a subluxation of the scaphoid, much to his surprise. By making a strong pressure upon the prominent bone anteriorly, and suddenly flexing the wrist, the bone was restored to its place; a plastic dressing was applied, and the patient soon after was discharged. This accident is quite rare, and is mentioned only by Chisolm, of Baltimore. The scaphoid was not entirely out of its place, but was firmly jammed in a new position, so that its edge presented to the radius.

Dr. William M. Welch also related a case of severe hemorrhage from the penis following the application of acid nitrate to a simple sore by a homœopathic practitioner.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, SEPTEMBER 9, 1880.

THE PRESIDENT, Dr. S. W. GROSS, in the chair.

Ulcerated scirrhous carcinoma of the mammary gland occurring at an early age. Presented by Dr. SAMUEL W. GROSS.

THE specimen before you is the entire left breast, which I amputated this morning. The patient, a married, prolific female, 27 years of age, first noticed, twenty months ago, a nodule to the outer side of the nipple, which gradually increased until the entire gland was involved. The glands of the axilla were observed to be enlarged in eight months, the nipple began to retract in twelve months, and the skin was superficially ulcerated in seventeen months, from the commencement of the disease. During the last four weeks the axillary glands increased to three times their former size, became densely indurated, and fixed to the axillary border of the great pectoral muscle and the side of the chest; the superficial ulceration was converted into a deep, crater-like sore; several nodules appeared in the skin at the inner circumference of the growth; and the mass attached itself to the pectoral muscle. There was no history of heredity, trauma, or psoriasis or eczema of the nipple.

The operation was made as thorough as possible by removing the entire gland along with its skin and subcutaneous fat, the greater portion of the pectoralis major muscle, and the involved lymphatic glands.

The interest of the case consists mainly in the comparatively early age at which the disease was first observed,—namely, twenty-five years and four months. In my "Practical Treatise on Tumors of the Mammary Glands," which has just appeared from the press, I state that out of one hundred cases of carcinoma of the breast of which I had a record the earliest age that I had observed was twenty-eight years. Since the chapter on carcinoma was written I have met with twenty-six additional instances, and the one now recorded was the only one noted before the age of thirty.

Foreign bodies in the external auditory canal. Presented by Dr. CHARLES H. BURNETT.

The young roach which I show you I removed alive from the ear of an Irish chambermaid in one of our large hotels last Tuesday morning. The patient stated that the evening previous, about nine o'clock, as she lay down upon her pillow, she felt something run into her ear; that she immediately experienced great and peculiar discomfort rather than pain, and that the intolerable annoyance of the movements of the creature and their attendant noises had continued all night, entirely banishing sleep. She looked very anxious and distressed, and had she not been of very large and muscular frame and in apparently robust health might have manifested graver nervous phenomena. I have known the entrance of a common fly into the ear of an infant to cause convulsions.

Under good illumination of the auditory canal by means of the forehead-mirror, I saw the central portion of the roach well down the canal, extending from above downward. This part I seized by means of delicate forceps with slender blades, and extracted the invader alive. It was 1 cm. long and 4 mm. wide at the widest part, not counting the antennæ, which are fully as long as it is. Instantly all the patient's discomfort ceased, and on examination it was seen that no harm had been done the ear at any point.

A great mistake is often made in such cases, first in supposing that the insect can do great harm, and secondly in making various rough and injurious endeavors at extraction.

The injury that does often arise in such cases is purely *post hoc*, and not *propter hoc*, as the aural surgeon sometimes has an opportunity of seeing.

Not long since, a distinguished aurist of Boston was called to see an old lady in one of the prominent families of that city, in order, as it was told him, to remove something from her ear. As he was hastily summoned, he went at once, and found the old lady in great distress and just getting over the effects of ether. The statement made to him was that her little grandchild, while playing with her on her lap, had put a small shirt-button into its grandmother's ear, and that, though it produced no discomfort, it was deemed best to summon their family medical adviser, who was

a homœopathic physician, and have it taken out. This was done, and the so-called physician examined the ear and said he could see the "button distinctly, as it was quite pearl-like in appearance." He then proceeded to extract the foreign body, but failed to do so, and, besides, gave great pain to the patient.

Finally, ether was resorted to, and a prolonged gouging and probing carried on, but no button could be got from the ear. For various reasons, the man ceased his manipulations and retired; the old lady recovered from her narcosis, but showed great signs of prostration; and, as it was supposed that the button was still in the ear, the aurist alluded to was summoned to extract it and relieve the suffering erroneously supposed to be due to its presence. He found that there was no button in the ear, and there was reason to believe there never had been, as the button which had been said to be in the ear was found subsequently on the floor near where the child and its grandparent had been sitting. What the first physician called in had seen and supposed was the button was the membrana tympani, which in the normal state looks like a pearl in color. To this he had directed his efforts, and *gouged it and the ossicles of hearing entirely out*, thus, of course, destroying the ear forever.

In my experience, a man, a junior partner in a machine-shop, called on me for relief from discomfort in his ear and deafness. He was a large, strong man, but was pale, anxious, and bathed in clammy sweats, manifesting, in fact, symptoms of shock. He stated that a few days previous, while crossing a street in front of a horse, the latter had splashed mud into his ear. No discomfort, save a little dulness of hearing, ensued; but on stating the occurrence to his comrades in the shop they insisted on his having the mud taken out, and they proposed to extract it, which they proceeded to do with wires and small tools. This caused great pain, but it was misconstrued as a sign of need of all the more sedulous endeavors at extracting the mud. Manipulation of the roughest kind was continued on the ear, until the man could endure it no longer. Great and continued pain ensued; the hearing remained dull,—in fact, became worse, and the man had to desist from work. Some little mud was taken out by his companions, and "several small white pebbles," as he said (most probably the ossicles). But as the pain and deafness continued, with some symptoms of dizziness and tension in the head, he concluded to seek medical advice.

Examination revealed *total destruction of the membrana tympani, it having been clearly cut away from its attachment to its bony ring, and all ordinarily visible parts of the ossicles had been similarly removed by his rough companions.* A few jets of warm water from a syringe would have removed all the mud had it been used at the first.

It is plain to be seen that two very important considerations arise at the outset when a foreign body is or is supposed to be in the ear. First, make sure of the diagnosis; and, secondly, make no effort at extraction which will do more harm than leaving the foreign body there, whether it be animate or inanimate. Presence of mind, too, on the part of the would-be surgeon as well as in the patient will always prove to be of the greatest aid.

This summer, a gentleman, just after he had gone to bed, felt an insect enter his left ear. He, of course, felt all the usual and peculiar annoyance from its movements. Being entirely alone in his house, he was thrown altogether on his own resources at the outset. He bethought himself in his extremity of a novel method of inducing the insect to come out, for he struck a light and held his ear as close as possible to it. He says he felt the insect turn and retrace its steps and come to the mouth of the ear, when he seized it with his finger-nail, which act caught and tore off its head. Death ensued, and all movements ceased in the insect, the body of which the patient removed at his leisure.

It would be well for doctors as well as patients to know that not the foreign substance so much as the unskilful and *rough treatment often practised is the real cause of the damage* which sometimes occurs *after* a foreign body has been in the ear. The most efficient treatment is to drop a little warm water or oil into the affected ear, and employ the syringe. Instruments should be used only by the expert.

PHILADELPHIA ACADEMY OF SURGERY.

MEETING OF MAY 3, 1880.

DR. S. D. GROSS, President, in the Chair.

ON THE TREATMENT OF CLUB-FOOT.

SEVEN cases of congenital varus and equino-varus, which had been under treatment for varying periods of time, were presented by Dr. Thomas G. Morton to illustrate the manner of dealing with these deformities in the Orthopædic Hospital and in his private practice. In all cases the treatment, Dr. Morton believed, should commence in earliest infancy, with the view, at first, of correcting the varus, and consists in frequent daily manipulations of the foot and carefully-directed pressure on the tarsus by the hand of the mother or nurse. No apparatus is available at this tender age, and no tendon should ever be divided for the relief of club-foot in infancy, for a varus can, by careful and persistent stretching of the foot, always be overcome; only now and then the plantar fasciæ must be divided. It is difficult and often impossible to reduce an equinus, but this deformity can also by stretching be much improved,

and can be corrected by operation much better when the child is able to walk. Indeed, it is better to delay the section of the tendo Achillis until the child is two or three years of age, as the elevation of the heel during this time gives rise to but little inconvenience. If this tendon is cut early, a rigid contraction generally results. After the varus is corrected and the child is ready to walk, a brace is necessary to overcome the tendency to a recurrence of the deformity. The ordinary club-foot walking-shoe allows only of a hinge-motion, and, as a frequent stretching of the ankle-bones outward is desirable, Dr. Morton has long employed for this purpose a modification of the usual apparatus, as follows. Taking an ordinary leather shoe, which should lace up in front, with the lateral steel supports running up above the middle of the thigh, with transverse braces and bands above and below the knee to hold the apparatus in position, he has had an additional hinge placed (Fig. 1) opposite the external malleolus, and opposite this point a portion of the inner steel rod has been taken out, and replaced by a double antero-posterior hinge or toggle-joint (Fig. 2), which enables it to yield when pressure is made upon it, while the hinge in the

FIG. 1.

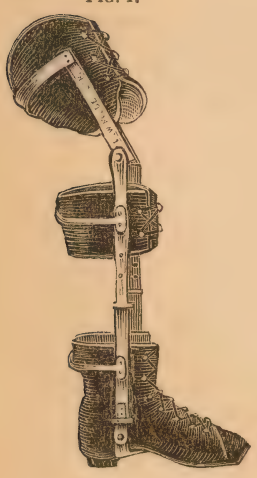
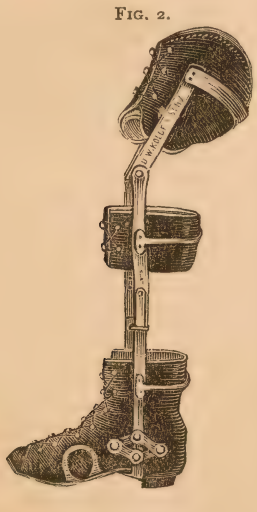
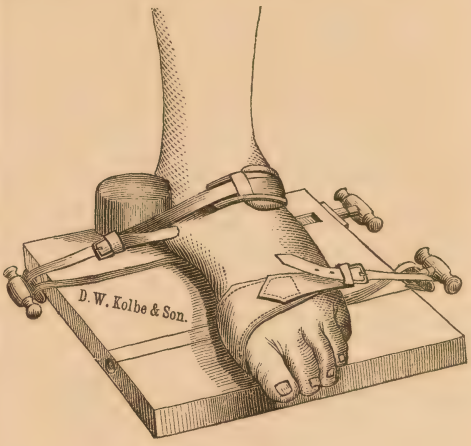


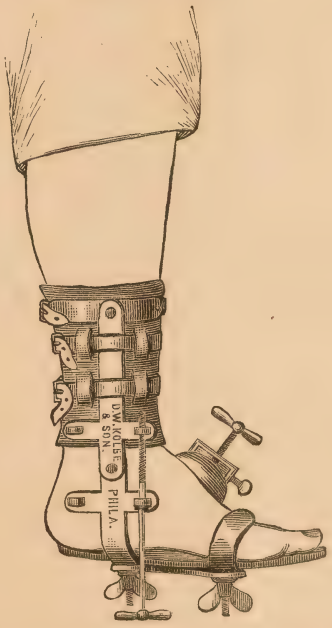
FIG. 2.



outer support allows the turning out of the foot each time it is brought down to the ground. The weight of the body resting upon it with each step gives, by this means, an outward movement or partial rotation of the foot, which is consequently communicated to the tarsus, so that this portion of the articulation is made more pliable.

In children where operations have, either through neglect or ignorance, resulted in stiff and unyielding deformity, and in adults never subjected to treatment, it becomes necessary after the division of tendons and fascia to stretch the foot at once into position by powerful pressure. For this purpose Dr. Morton has invented an apparatus which he has used in conjunction with manipulation, consisting of bands and screws, which can be applied first under anæsthesia, in order to force the condensed and rigid tarsus and surrounding tissues into a normal position. Other forms





of apparatus for a similar purpose he has employed with the same object in view, and with their aid he has been able to accomplish very much. He has never seen a case where excision of the tarsal bones was required. It is quite probable that in some rigid adult cases the tarsal bones have been fractured, however, by the power employed with the stretcher.

Some of the cases presented as illustrations were cured, others remarkably improved, by the methods described; and Dr. Morton, in

concluding, stated that after stretching or tenotomy he always uses for some days a posterior well-padded tin splint, and has the foot dressed morning and evening, carefully avoiding any irritation of the skin, and that the only forms of talipes which gave trouble were equino-varus and varus, hence he had confined his remarks to these varieties of club-foot.

Dr. S. W. Gross considered it improper to endeavor to cure the varus and the equinus at the same time, but thought it better to treat the varus first and then the equinus. Stretching is really subcutaneous rupture, and is therefore of value. He is accustomed to stretch the parts by bending them over his knee, and uses plaster-of-Paris dressings to maintain eversion of the foot. If bony anchylosis of the tarsal bones occurs, excision of a wedge of bone is necessary.

Dr. Packard exhibited a foot removed by him from a child who had had congenital varus in both feet. Spontaneous separation of the left foot had taken place, apparently from pressure on the soft parts in walking, the only connection between the leg and foot being a strip of skin on the inner side.

A full report of this case will be elsewhere given.

CASE OF PRIMARY EXCISION OF THE ELBOW.

Dr. John H. Packard presented a patient upon whom, some years ago, he had performed a primary excision of the elbow-joint for compound fracture. The excision included portions of the humerus, radius, and ulna. The man has excellent motion, with good control of the arm, and is able to follow his occupation. Since the operation, some necrosed bone has been discharged from the neighborhood of the injury.

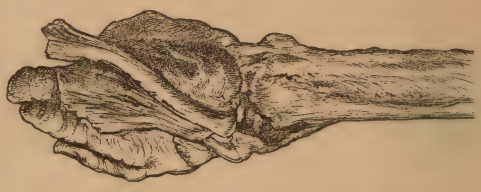
SPECIMEN OF FRACTURE OF THE LOWER END OF THE RADIUS.

Dr. William Hunt had recently amputated an arm for compound laceration of the elbow, complicated with rupture of the brachial artery, due to a fall, and was therefore enabled to obtain this valuable specimen of fracture of the lower end of the radius, produced by the same accident that had necessitated amputation for the severe lesions about the elbow.

The deformity at the wrist was the typical one known to all surgeons, and was represented to the Fellows by a wax model made before dissection of the specimen. The injury was simple, but when the soft parts were laid open considerable comminution was evident. The principal line of fracture seemed to be oblique, and there was a breaking off of the styloid process and of the posterior edge of the bone.

Dr. Hunt called attention to the satisfactory and simple explanation that the specimen gave of the projection of the lower end of the ulna, which has been the subject of so much discussion. This is annoying to both patient and surgeon, and often impossible to remedy completely. The fact is, that nothing whatever is the matter with the ulna or its radial connections, but the carpus loses the support of the malleolar-like projection of the external border of the radius by reason of the fracture. Hence it and the entire hand are drawn by muscles or fall to the radial side. In other words, the ulna is stationary and everything below it is pulled away from it. There is a close analogy to what so often takes place in Pott's fracture of the fibula, where, the external malleolus, or the shaft just above it, being broken, the foot follows the fragment, and leaves a great deformity in the projecting tibia, although this is really in its place and is not necessarily the seat of any lesion.

This view of the projecting ulna also explains the remarkably good use of the wrist and hand which is often acquired, notwithstanding very great deformity. All that participates in the joint-structure proper is together in mass, for the ulna is not part of it: therefore, if the repair is good, good action follows, although more or less deformity exists.



Dr. R. J. Levis believed it well to drop the names Colles's and Barton's fracture, as they tend to confuse the subject. Colles's description of the form of fracture was erroneous, because he placed the line of separation too high. The fracture described by Barton—namely, a small piece chipped off the dorsal edge of the radius, with slipping up of the carpus—never exists except as an accompaniment of comminution. The fracture is produced by cross-breaking strain, and is, as a rule, transverse. There may be impaction when the lower fragment is driven above the upper, so that the former is split.

Dr. O. H. Allis had dissected a fracture of the radius after death had occurred from injury to the pelvis, and found it to correspond with the description of Dr. Levis. It was a transverse fracture with splitting of the lower fragment.

Dr. John H. Packard had found in many dried specimens no chipping of the posterior lip of the bone. Barton had also described a breaking off of the anterior lip or edge of the lower extremity of the radius, which he stated had different symptoms from the fracture of the posterior edge. Dr. Packard believed the deformity usually seen in fracture of the lower end of the bone could not be

produced by the injury described by Barton. It may be obtained, however, by bending the hand of the cadaver backwards. The deformity remaining after treatment depends on want of proper reduction of the fragments at the time of the injury. It may be reproduced, after reduction, by muscular action. The specimens and history presented by Dr. Hunt were remarkable, since the occurrence of the wrist- and elbow-injuries must have been simultaneous.

COMPOUND SEPARATION OF THE LOWER TIBIAL EPIPHYSIS.

Dr. John H. Brinton exhibited to the Academy a model of a separation of the epiphysis at the ankle, which was compound in its character. The boy, aged about 10 years, was treated conservatively for ten days, when amputation was required. The case was mentioned as bearing on the subject discussed at the last meeting of the Academy.

Dr. O. H. Allis had seen a similar case die of tetanus.

FRACTURE OF PATELLA.

Dr. R. J. Levis presented a patient who had recently been treated for fractured patella by the modified Malgaigne's hooks devised by himself. There seemed to be bony union, and little or no difference in the length of the two patellæ could be noticed.

JOHN B. ROBERTS,
Recorder.

REVIEWS AND BOOK NOTICES.

A TREATISE ON THE PRACTICE OF MEDICINE. By ROBERTS BARTHOLOW, M.D. New York, D. Appleton & Co., 1880.

We confess to a feeling of disappointment after examination of this work: we find it simply a well-thought-out and well-written volume, offering, so far as we can make out, no remarkable attractions to the practitioner who already possesses the received students' books. We had expected a larger and more pretentious treatise, whose sixteen hundred or two thousand pages would really exhaust the subject of the practice of medicine. In our early days, Wood's and Watson's Practices, clad in finest leather and majestic in the dignity of two portly volumes, graced every student's table. Now, forsooth, after twenty years of rapid and continuous growth, the science has to content itself with one more or less diminutive muslin-enclosed volume. There is not to-day any good American or English practice of medicine that we know of which unites the freshness of a thoroughly new book with the elaborateness of such classics as we have just mentioned. Surgeries and systems of surgeries abound. What, then, is the matter with the professors of medicine? Possibly the explanation is to be sought in the tendency of human nature to follow a lead. Prof. Flint attained great success because he perceived that there was a demand for one-volume works on practice; this success led to an inundation with books of the class. The next great similar achievement, we opine, will be made by some one who perceives that there is need for works between the one-volume practice of medicine and the excessively elaborate and expensive monographs that require a bookcase for a set. Prof. Bartholow's work will, we have no doubt, sell well, as it deserves to, since it is one of the best books of its class; but it is a text-book, not a great classical treatise upon the practice of medicine.

ATLAS OF SKIN DISEASES. By LOUIS A. DUHRING, M.D., Professor of Skin Diseases in the Hospital of the University of Pennsylvania, etc. Part VII.: *Eczema* (pustulosum), *Impetigo contagiosa*, *Syphiloderma* (papulosum), *Lupus vulgaris*. Philadelphia, J. B. Lippincott & Co., 1880.

In attempting the delineation of eczema pustulosum, Dr. Duhring has grappled with one of the most difficult subjects likely to engage his attention, and to say that he has succeeded in portraying this disease is too faint praise. He has not only made a good picture, but he has done well where all his predecessors have failed. A comparison of this plate with those of Wilson, Tilbury Fox, or even Hebra, shows an almost universal failure in former attempts, and a more than excellent result in this. It is, in fact, impossible to say too much in laudation of this American atlas, for each new fasciculus is a fresh triumph over innumerable difficulties,—a victory of mind over matter.

Although the remaining plates in this fasciculus have not, we suppose, given the author so much toil and anxiety for their perfecting as the one just mentioned, yet they are all equally successful. The picture of impetigo contagiosa is the first successful delineation of this disease which has ever appeared, and its careful study is commended to the general practitioner, since the affection is almost entirely unknown to the profession at large, though it is at times exceedingly prevalent, and its contagious character is liable to cause it to be confounded with syphilitic and other disorders. The portrait of syphiloderma papulosum is simply perfect; as a representation of the affection, the resources of the chromo-lithographic art could hardly go farther. The final picture of this fasciculus represents a fair average case of lupus vulgaris, and should be carefully studied in connection with the plate of lupus erythematosus in the first fasciculus; the differences between the two affections are very well brought out.

As to the letter-press, being Dr. Duhring's,

it is unnecessary to say that it is brief, clear, concise, and authoritative.

PHOTOGRAPHIC ILLUSTRATIONS OF SKIN DISEASES. By GEORGE HENRY FOX, A.M., M.D., etc. Parts XI. and XII. New York, E. B. Treat.

Part XI. of Dr. Fox's atlas contains plates representing *Herpes facialis*, *Hydroa bullosum*, *Erythema circinatum* and *E. exfoliativum*, and *Purpura simplex*. The picture of herpes facialis is a good representation of a severe form of the eruption ordinarily known as "fever-blister." The case is a very unusual one, and worthy of special examination on that account. The picture of hydroa also represents a rare form of skin disease, and one not yet recognized by all dermatologists. Dr. Fox gives his reasons for giving this affection a distinct place in dermatological nosology, and describes its chief distinguishing features with considerable detail. The plates of erythema represent also unusual forms of skin disease. That of E. circinatum is very good, while the picture of E. exfoliativum does not convey, to our mind, any notion of what appearances are intended to be represented. The plate of purpura is a fair picture of this affection.

Part XII. (concluding the work) contains plates of *Cornua cutanea*, *Alopecia areata*, *Morphœa*, *Scleroderma*, and *Sarcoma pigmentosum*. Of these, the cutaneous horn, though striking, is not a good picture; its chief interest is in the evident connection shown between cornu cutaneum and epithelioma. The picture of alopecia areata gives a fair idea of this affection, but is not a fine picture: it reminds us of the Cheshire cat in "Alice in Wonderland," gradually withdrawing from view in a sort of mist. The picture of morphœa gives some notion of the lesion, but that of scleroderma is less good, and would hardly, we think, convey a distinct idea of the disease to a beginner. The plates representing sarcoma are very striking, and fitly terminate a work which, while it can make no pretension to vie with the lithographic pictures of skin diseases presented in this country and abroad, nevertheless must take a place in the collections of dermatologists, and which, including especially the admirable descriptions of disease given by the author, is a work highly honorable to the profession of this country.

DISEASES OF THE THROAT AND NOSE, INCLUDING THE PHARYNX, LARYNX, TRACHEA, ŒSOPHAGUS, NASAL CAVITIES, AND NECK. By MORELL MACKENZIE, M.D. 8vo. Vol. I.: DISEASES OF THE PHARYNX, LARYNX, AND TRACHEA. Philadelphia, Presley Blakiston, 1880.

The first volume of Dr. Mackenzie's long-promised work is at hand. Should the second volume sustain the high character of labor so evident in the first, the completed work will take a high position in the branch of medicine of which it treats. It is both practical and learned; it is abundantly and well illustrated; its descriptions of disease are graphic; and the diagnoses the best we have anywhere seen. To give examples of the thoroughness of Dr. Mackenzie's book, we may cite the chapter on diphtheria, which embraces forty-seven pages. The chapter on non-malignant tumors of the larynx would appear to be absolutely exhaustive. Nowhere else have we seen so elaborate a statement of the subject. A very suggestive chapter is given on the anginæ caused by poisonous drugs, which includes the peculiar appearances due to certain constitutional impressions following the administration of mercury, antimony, iodide of potassium, arsenic, and belladonna. A very valuable appendix embraces a number of formulæ for topical remedies.

We must accuse our author of being occasionally a trifle pedantic, as when he speaks of painful deglutition as odynophagia, and displays over valuable space of his pages the synonyms of the various affections embraced in his text. It is a matter few persons feel a very vivid interest in that "tonsille ipertrofiche" is the Italian for enlarged tonsils. The select students who may be eager to possess this knowledge will most likely, long before the printing of this work, have secured a polyglot dictionary.

We can predict for this work a high position, and congratulate its distinguished author upon its appearance.

GLEANINGS FROM EXCHANGES.

UTERINE HÆMOSTATICS.—At a recent meeting of the British Medical Association (*Brit. Med. Jour.*, vol. ii., 1880, p. 367), Dr. Lombe Atthill read a paper on this subject, confining his remarks to the means of arresting hemorrhages from the unimpregnated uterus. The commonest causes of these were: 1. The various forms of cancer. 2. Tumors of the uterus. 3. Imperfect involution of the uterus after labor or abortion. 4. A granular condition of the intra-uterine surface. 5. Retention of a portion of the ovum after abortion. As to cancer, Dr. Atthill's opinion of the Chian turpentine treatment was favorable, although not to the extent of Mr. Clay's views as to its curative powers in malignant disease of the uterus. It seemed to exercise its greatest power in cases of epithelioma of the cervix, and to have comparatively little influence in the medullary form of the disease. The value of turpentine in cancer of the uterus seemed to be mainly due to its action in diminishing the blood-supply. The small supply of Chian turpentine and the difficulty of obtaining it pure were serious objections to

its use. Dr. Atthill believed that a pure oil of turpentine, administered in from ten- to twenty-drop doses three or four times a day, was, as a hæmostatic, quite as good, and that, if carefully rubbed up with powdered gum arabic or tragacanth, it was likely to agree with most patients.

To restrain the hemorrhage from fibrous tumors, the injection into the uterus of the liquor ferri perchloridi and of the tincture of iron had been advocated. This method was sometimes followed by satisfactory results; but it was not absolutely safe, and unless care was taken to provide a free exit for the fluid injected, either by previously dilating the cervix uteri or by using a double canula, serious results might follow. The injection of hot water in such cases was a far safer method of restraining the hemorrhage. Incising the cervix was often useful in being followed by a diminution in the hemorrhage and by relief from pain, and at the same time it permitted the introduction into the uterus of a tube of moderate size and the free return of the hot water, which should be injected at a temperature of about 110° F. Another simple and often effectual method of applying heat was the use of Chapman's spinal hot-water bags. Of drugs, none could equal ergot in its power of restraining the hemorrhage depending on fibrous tumors. It was most effective when administered hypodermically.

Imperfect evolution of the uterus implied primarily a relaxed state of the muscular tissue of the organ and an unduly distended condition of the uterine vessels, and also, in most cases, an unhealthy condition of the intra-uterine mucous membrane. When the latter existed it must be cured by treatment directed to the intra-uterine surface. To check the hemorrhage at the time of its occurrence hot water was a safe plan of treatment, and, generally, easily carried out. Ergot, quinine, and strychnine were, in cases of imperfect involution of the uterus, indirect hæmostatics. In the chronic form of the affection, Dr. Atthill had administered Chian turpentine with benefit.

Hemorrhage due to a granular condition of the vaginal aspect of the cervix might be arrested by the direct application to the bleeding surface of almost any astringent; but to prevent its recurrence a healthy condition of the cervix must be brought about by the free application of some strong caustic.

The retention of a portion of the ovum after abortion sometimes gave rise to very troublesome hemorrhage. In such cases dilatation of the uterus and removal of the retained portion by a curette might be performed unless contra-indicated, but it was liable to give rise to cellulitis and even to peritonitis, and Dr. Atthill therefore strongly recommended in such cases, at least as a preliminary measure, the syringing out of the uterus with hot water. He had no faith in the administration of astringents by the mouth in cases of uterine hemorrhage depending on the causes which he had enumerated. In conclusion, he suggested that the most important questions for discussion in connection with the subject of uterine hæmostatics were these: 1. What is the value of Chian turpentine in arresting hemorrhage in cases of cancer of the uterus? 2. Is Chian turpentine the only variety of the drug of use in such cases? 3. In what other forms of uterine hemorrhage is the administration of turpentine indicated? 4. What is the value of the intra-uterine injection of hot water: (*a*) in cases of hemorrhage depending on the existence of fibrous tumors of the uterus; (*b*) in cases of imperfect involution of the uterus; (*c*) where portions of the ovum have been retained after abortion?

Soap Bark.—The bark of quillaia, a Chilian tree, contains among other ingredients saponin, a principle widely diffused throughout the vegetable kingdom, and which makes an abundant froth with water. It is stated that an infusion of the bark fulfils all the requirements of a mild soap, and further acts as a moderate stimulant and astringent on the skin. It has been used with marked benefit in pityriasis capitis, and has afforded excellent results in chronic ulcers and eczema of the extremities. The infusion is also a valuable remedy for aiding in arresting fetid perspiration and excessive secretion.

In cases involving the face and armpits, the patient is instructed to dip a small piece of sponge in the infusion and carefully mop over the surface once or twice daily. When the hands or feet are affected they should be bathed in the solution nightly, or on alternate nights, according to the condition. When a more active stimulant and astringent effect is required, the tincture of saponin can be employed with much advantage. The tincture is made by extracting the bark by strong boiling alcohol (4 ounces of bark to 1 pint of alcohol). It is miscible with both water and oil, and has the power of dissolving, emulsifying, and removing fats and dirt from the skin. In many diseases, especially in seborrhœa sicca, it is far preferable to the tincture of green soap. It has all the advantages that are claimed for the latter, and at the same time is free from the high diffusive, penetrating, and destructive action on the tissues that the latter possesses. This tincture has been used with great benefit, not only in diseases to which the infusion is applicable, but also in general thinning and loss of hair in different parts of the body.

Tincture of quillaia also possesses very active powers as an emulsifying agent, and appears likely to occupy a useful place in pharmacy for that purpose. Mr. Collin (*Phar. Jour.*, September 20, 1879) has prepared with complete success emulsions of a number of substances, such as chloroform, fixed oils, copaiba, etc.

The following formula for mistura filicis maris is adopted at Guy's Hospital:

℞ Ext. filicis liq., ʃʒi;
Tinct. quillaiæ, fʒss;
Syr. zingiberis, fʒss;
Aq. destillat. ad fʒi.—M.

If some mercury be shaken up in a bottle with tincture of quillaia, the metal is reduced to a very fine state of division. It has much the appearance of hydrarg. cum cretâ, and, examined with a lens, is seen to be composed of distinct globules of mercury.—*Dub. Jour. of Med. Sci.*, September, 1880.

Congenital Neurotic Papilloma.—At the recent meeting of the British Medical Association (*British Med. Jour.*, vol. ii., 1880, p. 387), Mr. Wyndham Cottle read a description of the case of a boy whose skin presented lines of dark wart-like growths in the course of certain nerves. These lines were confined to one side of the body and limbs, and the rest of the skin was normal. The markings had existed from birth, and followed the course of the cutaneous branches of the fifth nerve, the internal cutaneous, intercosto-humeral, and saphenous nerves, and also occupied the middle line in front. They were limited to the right side, and were composed of contiguous filiform papillomata, and in structure corresponded to ordinary filiform warts. The lesions were closely allied to ichthyosis hystrix, from which they were separated by being unilateral, following the course of certain nerves, and being attended by no accumulation of epithelial débris, horny plates, etc., from alterations in the sebaceous glands. They probably depended on morbid intra-uterine nerve-influence, akin to the zoster of later life, and formed a striking example of perverted nerve-action in nutrition. Mr. Cottle proposed the designation "congenital neurotic papilloma."

Color-Blindness in the Profession.—At a recent meeting of the British Medical Association seven hundred members were examined on this point: twelve were completely color-blind, six red-blind, and six green-blind, and two were incompletely color-blind, one red and one green,—in all, fourteen. Of four others who were not color-blind it may be said that their chromatic sense was feeble. A large number who presented themselves for examination expressed a belief that they were color-blind whose color-sense was yet found on examination to be normal.

Hirsuties Removed by the Galvanic Pessary.—In a discourse on menstrual insanity at the recent meeting of the British Medical Association, Dr. J. Crichton Browne referred to a case seen in consultation with Mr. Tait, many years ago, in which a bearded lady had been benefited by the introduction of a galvanic pessary. The beard subsequently fell off, and the patient's mental condition, which was that of melancholia, improved so that she recovered completely.

MISCELLANY.

A French Doctor on Gluttony.—Dr. Gaétan Delaunay, in a recent essay on biology, addressed to the French Academy of Sciences, devotes a chapter to the study of *gourmandise*, or gluttony, which, in the opinion of the scientific writer, is more commonly observable in men in proportion as they are lower down in the scale of civilization. Intellectual development and an immoderate love of eating and drinking are rarely to be met with in the same person, those who are most addicted to gluttony being savages, negroes, idiots,—all, in short, whose brains lie dormant. In European countries he remarks that, as a rule, the poor are more given to gluttony than the rich, the peasant than the tradesman, the women than the men, children and old persons than adults, the weak than the strong, fanatics than free-thinkers. According to the learned doctor, the profession or calling in modern French society most remarkable for vivacity at the dinner-table is the clerical profession. First on the list of gluttons, then, he places prelates and priests; second, diplomatists; third, magistrates; fourth, superior state functionaries, such as state councillors and others of similar rank; fifth, bankers and financial men; sixth, independent persons, who live on their incomes in idleness; and last, artists and literary men. Dr. Delaunay's theory is, in a word, that the greater the intelligence, the more the mind is engaged or the brain works, the less disposition there is for gluttony; and, following up this theory, he points out, we presume from personal observation, that among artistic classes musicians, whom he considers to be the least intelligent, are the most fond of good cheer, and in the category of singers tenors are greater gluttons than baritones. With regard to gentlemen of the brush and chisel, it is the painters who are more addicted to inordinate eating than sculptors, painters of what is called *genre* being more *gourmand* than landscape-painters. Women, this young laureate of the Academy tells us, are more greedy than men; milliners, adds the doctor,—who seems to have enjoyed the privilege of penetrating into all the dining-rooms of France,—being decidedly greater gluttons than dressmakers.

Higher Medical Education.—A special committee, in a report on medical matters to the Supreme Lodge, Knights of Honor, say that among the certificates of death "we found a death recorded as caused by 'organic duoyenum of the heart,' a peculiar form of cardiac disease of which your committee have no knowledge; one caused by 'dysphagia on account of closing glottis,' and we are left to conjecture whether or no it was done voluntarily, by due process of law, or a dispensation of Providence; another was caused

by 'congestion of the brain *and* falling from a building:' the primary cause of death we are unable to determine; another, in a little more than three months after initiation, died of the following onslaught of maladies: 'inflammation of neck of the bladder, acute bronchitis, pleuro-pneumonia, inflammation of the left ear, nephritic trouble, and functional cerebral.' Trouble enough to kill an entire lodge."—*Kings County Medical Society.*

Infant Mortality in the Belfast Workhouse.—In reply to a question put by Mr. Arthur Moore, M.P., whether his attention has been called to the statement in Dr. M'Cabe's recent report on Belfast Workhouse, that within the six months from January to June eighty-two infants have died in that institution, and if he would inform the house what percentage of the whole number of infants this represents, the chief secretary replied that the ratio of mortality was thirty per cent. This is nearly as bad as the "Butcher's Bill" of the old Foundling Hospital in Dublin, in which institution ninety-two per cent. of all the infants were annually made away with for a long series of years. Subsequently Mr. Moore gave notice that next session he would move a resolution demanding a reform of the Irish poor-law and its administration.

Xylotherapy.—At a recent meeting of the Société de Thérapeutique, M. Dujardin-Beaumetz read for M. Jourdanis a note on the æsthesiogenic properties of certain woods applied to the skin, which he calls xylotherapy (*La France Médicale*). M. Jourdanis has applied plates of wood to the insensible skin, and, as with plates of metal magnets, sinapisms, and blisters, has obtained a return of sensibility. The application of wood seems to be more active than the other means. All woods do not act with equal intensity, and with regard to their efficacy may be classified in the following order: cinchona bark, thuja, rosewood, mahogany, pitch-pine, walnut, maple, apple; poplar, ash, and plane produce no effect. Return of sensibility is accompanied by congestion of the skin. We cannot suppose these phenomena to be caused by electric currents.

Epilepsy from a Foreign Body in the Ear.—Dr. Katz, of Berlin (*La Presse Médicale Belge*), had recently under his care a woman, æt. 30, who had never shown the least sign of hysteria or any other disease of a nervous origin. For a year she had had very troublesome noises in the ear, and about the same time became subject to epileptiform attacks at intervals of one or two months. All the means employed to cut short these attacks were fruitless. When Dr. Katz saw the patient, at the end of last year, he was not long in discovering at the bottom of the left auditory meatus a black mass, which was extracted with some difficulty, and was found to consist of a roll of cotton wool covered with cerumen. Freed from this foreign body, the woman found herself relieved at the same time of the disagreeable sensations in the left ear and the convulsive fits.

Mutual Aid Association of the Philadelphia County Medical Society.—On Thursday, 16th ult., the first social reunion of the association was held at the residence of the President, Dr. Benj. Lee, Manheim Street, Germantown. In addition to the members of the Society, a number of prominent physicians were present by invitation. The entertainment lasted from four till eight in the evening, and the company spent an exceedingly pleasant time in the spacious grounds (some sixteen acres in extent), the enjoyment being heightened by a delightful concert performed by an orchestra, the illumination of the gardens after dusk, and a bountiful attention to the necessities of the inner man. The pleasure of the event was enhanced by the sedulous attention shown to his guests by Dr. Lee's accomplished family.

The Teaching of Obstetrics.—In a discourse on this subject before the British Medical Association (*Brit. Med. Jour.*, vol. ii., 1880, p. 375), Dr. Macnaughton Jones stated the three following propositions: 1. The efficient teaching of an obstetric class cannot be effected in a course of less than one hundred lessons. 2. An attendance on at least twenty cases of labor should be required of the candidate before he is permitted to present himself for his final examination, these cases to be attended in some recognized hospital or maternity or under the supervision of a recognized teacher. 3. The candidate should be required to produce proof, by notes of cases or otherwise, that he has attended in the wards or exterior department of a hospital a given number of uterine cases.

A Positive Sign of Early Pregnancy.—Dr. J. H. Caritens, in the *Detroit Lancet* for September, calls attention to the color of the mucous membrane of the vagina and cervix uteri as a positive sign of pregnancy during the first three months.

He says, "This I have always found of a purplish blue, or rather deep violet hue, in pregnant women, and I have depended on this peculiar color in making a diagnosis of pregnancy in the first, second, and third months. I can say it has never failed, and it is not produced by any pathological condition: the different colors produced by uterine disease cannot be mistaken for this pathognomonic violet hue."—*Maryland Medical Journal.*

Treatment of Pseudo-Membranous Colitis by Euonymin.—Dr. Blondeau brought before the Société de Thérapeutique recently (*La France Médicale*) a case in which he had employed euonymin in one of his patients suffering from pseudo-membranous colitis which had been vainly treated by the most energetic remedies. He prescribed—

euonymin, 0.05 gramme; extract of hyoscyamus (B.P.), 0.10 gramme, made into two pills, one to be taken morning and evening. After six days of this treatment, the patient had regular motions, and recovered her health, which she had lost for some months.

PRE-NATAL IMPRESSIONS. — An English medical paper says that a Maryland physician reports the case of a lady who, during pregnancy, carried with her a pocket edition of Moore's Poetical Works, which she read almost constantly. Her child, at three years of age, exhibited a most wonderful gift of putting sentences in rhyme,—in fact, naturally expressed his little ideas and thoughts in flowing measure! Blame not the bard; but a case like this shows how important is a well-assorted library to a gravid uterus.

THE END OF TWO BOGUS COLLEGES.— Replications were recently filed in Court of Common Pleas, No. 3, to answers submitted by the "Eclectic Medical College of Pennsylvania" and the "American University of Philadelphia." The answers of the defendants set out that they claimed to exercise their rights, privileges, franchises, etc., by virtue of an act of Assembly, dated March 26, 1867, incorporating the latter college, and an act of February 25, 1850, incorporating the former.

It was to these answers that counsel for the Commonwealth filed replications. They aver that the above corporations have forfeited their charters, because of, first, the conferring of degrees upon persons not possessing the qualifications such as are prescribed by their charters; second, the sale of diplomas; third, the granting of degrees of doctor of medicine, and antedating such diplomas in order to make it appear that the recipients had the right to practise medicine; and, fourth, the issuing of diplomas with forged signatures. After the replications were filed, counsel for both of the defendants confessed judgment of ouster in favor of the Commonwealth, and filed as a part of the record a letter from Dr. Buchanan authorizing him to do so.

PORRO'S OPERATION SUCCESSFULLY PERFORMED. — Dr. Elliott Richardson, of this city, recently performed Porro's operation successfully, the mother being a well-known dwarf only forty-two inches in height and thirty-two years of age. This is the first successful operation of the kind which has ever been performed by an English-speaking surgeon.

FALLING OF THE HAIR.—Mr. James Startin, in the *British Medical Journal*, suggests the following application in general loss of hair without obvious cause:

℞ Vaselini,
Ol. ricini, āā ℥ss;
Hyd. ox. rub., gr. v;
Liq. ammon. fort., fℨss;
Ol. rosmarini, gtt. v.—M.

THE death of Prof. Polli, famous for his researches upon fermentation, is announced.

CHOLERA has broken out at Saratov, on the Volga, and at Orel, in Russia.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM SEPTEMBER 19 TO OCTOBER 2, 1880.

IRWIN, B. J. D., MAJOR AND SURGEON. — Relieved from duty in Department of Dakota, and to report in person to the Lieutenant-General commanding Military Division of the Missouri, for duty as Attending-Surgeon at Headquarters of that division, relieving Surgeon Spencer. S. O. 205, A. G. O., September 24, 1880.

SPENCER, W. C., MAJOR AND SURGEON.—When relieved by Surgeon Irwin, to report in person to the Commanding General, Department of Dakota, for assignment to duty. S. O. 205, c. s., A. G. O.

GODDARD, C. E., MAJOR AND SURGEON. — To report in person, at the expiration of his present leave of absence, to the Superintendent Mounted Recruiting Service, for duty as Post-Surgeon at the Cavalry Depot, Jefferson Barracks, Mo. S. O. 205, c. s., A. G. O.

BROWN, J. M., CAPTAIN AND ASSISTANT-SURGEON.—To accompany battalion Sixteenth Infantry from Cantonment on the Uncompahgre, Col., to Fort Garland, Col., and there remain on duty. S. O. 211, Department of the Missouri, September 22, 1880.

BREWER, J. W., CAPTAIN AND ASSISTANT-SURGEON.—To report in person to the Commanding General, Department of the South, for assignment to duty. S. O. 205, c. s., A. G. O.

TREMAINE, W. S., CAPTAIN AND ASSISTANT-SURGEON.— Relieved from duty in Department of the Missouri, and to report by letter, at the expiration of his present sick-leave of absence, to the Surgeon-General. S. O. 205, c. s., A. G. O.

MUNN, C. E., CAPTAIN AND ASSISTANT-SURGEON.—To accompany the battalion of the Fourth Cavalry, which is relieved from duty with the Ute Expedition, to Fort Garland, Col., and then proceed to and take post at Fort Hays, Kansas. S. O. 210, Department of the Missouri, September 21, 1880.

WEISEL, D., CAPTAIN AND ASSISTANT-SURGEON.—To report in person, at the expiration of his present leave of absence, to the Commanding General, Department of the East, for assignment to duty. S. O. 205, c. s., A. G. O.

HARVEY, P. F., CAPTAIN AND ASSISTANT-SURGEON.— Assigned to duty at Fort Snelling, Minn. S. O. 113, Department of Dakota, September 22, 1880.

WINNE, C. K., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty at Fort Brady, Mich., and assigned to duty as Post-Surgeon at Fort Schuyler, New York Harbor. S. O. 167, Department of the East, September 21, 1880.

REED, W., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty as Post-Surgeon at Fort Ontario, N.Y. S. O. 167, c. s., Department of the East.

BIART, V., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.— Relieved from duty in the Department of the Missouri, and to report in person, at the expiration of his present sick-leave of absence, to the Commanding General, Department of Dakota, for assignment to duty. S. O. 205, c. s., A. G. O. The operation of above order suspended until May 1, 1881. S. O. 209, A.G.O., September 30, 1880.

RICHARD, CHARLES, FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty at Fort Snelling, Minn., and assigned to duty as Post-Surgeon at Fort Maginnis, M. T. S. O. 110, Department of Dakota, September 15, 1880.

BENHAM, R. B., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to temporary duty with escort to working-parties on extension of Northern Pacific Railroad at Camp Houston, D. T. S. O. 113, c. s., Department of Dakota.

PHILADELPHIA, OCTOBER 23, 1880.

ORIGINAL COMMUNICATIONS.

THE ETIOLOGY OF FRACTURES OF THE CRANIAL BASE, AND THE ANATOMICO-PATHOLOGICAL REASONS FOR THEIR FATALITY.

BY C. B. NANCREDE, M.D.,

Surgeon to Episcopal Hospital; Lecturer on and Demonstrator of Osteology and Syndesmology in the University of Pennsylvania.

Read at a Meeting of the Pathological Society of Philadelphia, September 23, 1880.

GENTLEMEN,—When asked to prepare a paper for this evening, I felt how utterly inadequate was the time which remained before the 23d of September, in which to write one worthy your consideration. As one of the authors of the amendment to the constitution whereby the conversational meetings were inaugurated, I felt, however, that it would ill befit me to refuse to fill the gap left by the declination of one so much better fitted for the task as my friend Dr. J. Ashhurst.

Upon due reflection, the subject with which I propose to occupy your attention this evening has seemed eminently fitting for the purpose, and for the following reasons. Although, of course, to some the views I intend advancing are neither altogether new nor original, yet, to judge by the literature of the subject, few practically realize their importance.

Let it be clearly understood that the major part, if not all, of what I propose saying is not original; but, owing to the seeming ignorance of most writers upon the subject, the old views need re-stating. The ordinary view held, and, judging from the results, taught, is that these injuries are so grave from the amount of violence causing them, or from the important vital structures contiguous to the injured bones and liable to similar traumatic lesions. Now, I would state, at the outset, that I consider this view to be very incorrect, and that could we change the structure of the skull so as to render its *base* like its *vault*, extensive shatterings could not occur; or, if they did, no more evil results would follow than in an ordinary fracture of the vault. When my explanations are given, this apparently bold statement will appear, I trust, justified; although, strictly speaking, it is only approximately correct. It is, however, sufficiently accurate for the sake of impressing what I believe to be an important fact.

Of course it will be understood that I do not deny that death is the direct result of basal injuries when they are such complete crushes as to divide the brain-case into several distinct segments, with extensive lacerations of the brain-substance. Perhaps the clearest way to explain my views will be to take a case such as I have seen myself, or such as Hilton relates, as a text.

First, however, let us classify the various basal fractures, and then define clearly which are dealt with in this paper. First, then, we have fractures of the base resulting from direct violence, such as a thrust from a cane or umbrella in the orbit. A violent blow on the nose, which fractures its bones, may also break the cribriform plate of the ethmoid, as in these specimens which I show you. Then, too, the condyles of the lower jaw have been driven through the glenoid fossa of the temporal bone by direct violence applied to the former. Besides such instances of direct violence, there are others where I maintain that it is in reality the fracturing force. I suppose that many will take exception to this statement: still, it is true, and is constantly taught, although not formulated as I have done. Suppose a man falls from a great height upon his feet, what results? Why, practically, the condyles of his occipital bone are struck violently through the medium of the spinal column,—more violently, indeed, than otherwise could occur, because plus all the amount of the vibrating structures of the body, except such as are diverted or checked by the various tutamina, struck just as *directly* for mechanical purposes as if with a sledge-hammer.

Again, if a man falls from a height and strikes full upon the vault in some comparatively yielding substance, as soft earth, the weight of the body again strikes, through the medium of the spine, a violent blow upon the occipital condyles, thus fracturing them. This statement of such injuries being due to direct force may appear clearer if I say that a blow is merely the exciter of vibrations, and that we must consider the point whence they start as in reality the *point of impact.*

Then, again, a third class present themselves, where the fissure starts in the vault and merely reaches the base by direct continuity. The head may be also caught between two opposing forces, when a general crush involving the base will ensue. Finally, we have those said to be produced by *contre-coup*. If we mean by this a fracture upon the side opposite to the point struck, unless this point be about the centre of the vault, this certainly is unlikely. For instance, a violent blow upon the right parietal boss will not produce a fracture at the left parietal eminence, but at the base of the cranium, through one or both petrous bones. I do not deny that a blow in this situation may produce laceration of the brain-substance exactly opposite to the point struck, because the brain is practically homogeneous, and vibrations *cæteris paribus* are conveyed through it equally, while the skull *does not* convey vibrations equally well in all directions. Again, the statement that the vibrations which are excited in the vault travel by the shortest route to the base is absolutely incorrect. They reach the base by the "shortest anatomical route," indeed, but that is very different from the shortest route, and is often quite a long one. Again, the statement made by a recent author that a blow upon the occiput may break the petrous portion of the temporal bones, because the "basilar process rests against the apices of these petrous bones," is a mistake, as the force which breaks these bones does not reach them through the basilar process, but the vibrations pursue another course, as will be presently explained.

The mistake here made is in failing to remember that the various portions of the skull are of varying thicknesses and are so constructed for specific ends. If the vault were of even thickness and density, as well as all of the base except its central portion, and if the skull were also a true sphere, *then* true fracture by *contre-coup* of the base would obtain, for the vibrations would travel from the point struck equally in all directions until, meeting at the weak central basal portion, it would be disrupted. But the skull is of unequal thickness, it is not a sphere, and certain portions of its base, although frequently broken, are in reality the densest and strongest.

It is unquestionably true that the portion of the skull struck determines which of the fossæ of the cranial base the fracture will traverse. This I hope to explain by certain anatomical peculiarities of the skull-structure. This fact relative to the point struck determining the site of the fracture, has been proved by the experiments of Aran and the investigations of Prescott Hewett.

Some writers have been so hard pushed to explain fractures at a distance from the part struck, that they have actually ascribed them to the vibrations communicated to the *brain*, which then acts as the fracturing force. Thus, Prof. Longmore considers that certain fractures of the orbital plates of the frontal bone, caused by gunshot wounds of distant parts of the skull, are actually produced by the vibrations of the brain. In this view Otis concurs. Dr. Harrison Allen, in an article on fractures of the cranium, in Hays's *American Journal of the Medical Sciences* for January, 1874, gives an explanation of such cases, instancing that of President Lincoln. I regret to feel compelled to dissent from his conclusions. In the proper place the case will be related, with Dr. Allen's comments upon it, and my own reasons for dissent.

Before proceeding to the anatomical demonstrations which I wish to make, let me refresh your memory by a homely illustration as to the direct proportion of the force of vibrations to the amount of the bony or other tissue struck. If one end of a wire of fine calibre be held in the hand, and the other, after being laid upon an anvil, be struck never so hard, no appreciable vibrations will be perceived; yet they are present. Let the same experiment be tried with a crow-bar, and I think few of us would care to suffer the unpleasant jar that would result. Now, just this same thing occurs in the skull: where thin the vibrations are imperceptible, where thick they are marked. But the base of the skull, having to support the superincumbent weight of the skull and brain and afford a firm basis for the movements of the lower jaw and of the head on the spine, as well as to protect the important nervous structures connected with it, must be massive, at least in parts. These advantages during health have compensating disadvantages when man is subjected to violence: indeed, in his ordinary movements this massiveness of portions of his cranial base would be very disad-

vantageous were it not for certain wise provisions presently to be spoken of. It is hardly necessary for me to refer to the ordinary tutamina of the brain, such as the hair, scalp, pericranium, and dura mater, acting, as the latter two do, as a wash-leather lining and cover would to a bell. It will, however, be essential to speak of certain processes of the dura mater.

I will now give briefly a history of a case of fracture of the base, which I propose to use as my text, in conjunction with the general relation of similar cases given by Mr. Hilton in his remarkable lectures upon the cranium. My friend Dr. Charles Wirgman called upon me one evening some months back, requesting me to see in consultation with him a young boy of some nine to ten years, who, he thought, was suffering from a fracture of the skull. I am indebted to Dr. Wirgman for the following outlines of the case. Four days previously he had been desired to see the patient, who had walked home, assisted by his playmates, after having fallen on his head while playing leap-frog. When Dr. Wirgman saw him, he was suffering from slight symptoms of concussion, the exact details of which are of no moment. The following day he seemed better, only complaining of some headache. Upon the third day the improvement was *very* marked, nothing remaining but some headache. He was very desirous of being allowed to sit at the window, and I know that the doctor's injunctions as to perfect quietude were not complied with. The patient, when called upon to evacuate his bowels, went out as a matter of course to the yard, and walked about the apartment when so inclined. Only a few hours after Dr. Wirgman's last visit he was hastily summoned; but before going he called upon me to request my advice and assistance. The patient's residence was at a short distance, but when we arrived he had been dead some little time. He had been—as far as could be ascertained—attacked with vomiting, which was followed by eclampsia, rapidly terminating life. I expressed the opinion that the patient had had a fracture of the base of the cranium, and that perfect quietude might possibly have averted the fatal results. By the courtesy of Dr. Wirgman and Dr. Lee, the then coroner's surgeon, I was present at the autopsy. An insignificant ecchymosis was detected over the right mastoid region, which, it is probable, resulted from infiltration of blood from the fracture. Upon reflecting the skin, what at first sight looked merely like the normal masto-occipital suture, with a little coagulated blood occupying its depressions, was seen. Upon a closer scrutiny this proved to be a fracture separating the synarthrosis. The test upon which I relied was the impossibility of removing the line of coagulated blood effused between the fragments, while the same collected in a suture can always be wiped or washed away. Upon removing the calvarium, a line of fracture was discovered which traversed the right petrous bone, extending posteriorly from the occipito-mastoid suture forward. A small blood-clot of a few lines in extent lay near the fracture, but there was nothing that could be called meningitis: indeed, the brain and its membranes were unusually healthy-looking.

Hilton makes the following pertinent remarks, which I transcribe verbatim:

"I have known it to happen that a person, having been exposed to external violence, which has led to a fracture of the base of the skull, and feeling pretty well a few days after the accident, has expressed a desire to get up and leave his sick-chamber, which his medical attendant has been indiscreet enough to allow him to do, or which he has done of his own accord, without the knowledge or consent of his medical adviser. After moving and walking about, however, for a short time, he has soon complained of headache, has been attacked with sickness and vomiting, afterwards has had confusion of his ideas, and, finally, has fallen into a state of unconsciousness, in which, after three or four days, he has expired."

The first point of mechanical interest in the structure of the brain-case is its ovoid form, to which is ascribed a large proportion of the security of the brain. To a considerable extent this is true; but it is a matter of profound surprise to me how one important point is apparently completely overlooked. Take up any work upon anatomy, and the author will doubtless expatiate upon the strength secured by the peculiar form of the brain-case, any segment being a section of a spheroid. If an injury—as a fracture—were only produced by a *crushing* force, this would be an incontrovertible proposition; if, upon the other hand, a large

part of the damage is done by setting up *vibrations* in the bones themselves, then the form of the skull only conduces in a slight degree to its immunity from fracture. An arch that will sustain uninjured hundreds of tons' *pressure*, if vibrations are set up in it, may be readily *fissured* in many directions, although its *form* may remain unchanged. The arched form of the skull, then, merely resists the tendency of the bones to be pressed inward when a blow is struck; after that the fracturing force expends itself in producing vibrations, which cause the fracture. Any brittle body capable of fracture will be so injured whenever the *vibrations become violent enough to overcome the cohesion between the particles composing that body.*

Let us first examine the anatomy of the child's skull, as it may give us some hints which will prove useful. I suppose that I may safely say that the base of a *young* child's skull has never been fractured by anything but direct force, or that more than *one* bone of the vault has ever been broken unless the force was actually applied to it. Now, why is this so? Examine an infant's skull, and you will see that each bone is isolated from every other by membrane,—than which there is no better arrester of vibrations. Again, as you will readily see by a careful examination of any young parietal or frontal bone, but specially of one say at the sixteenth week *in utero*, the most projecting portions (those, of course, which are most apt to strike the ground first in a fall) are the thickest, while extending from these centres are radii of bone becoming more and more delicate. Each of the fine terminal points of these radii is enveloped by the membrane, which, by its ossification, forms the bone. Recall now my homely illustration of the vibrations of the wire and the crow-bar. Do you not see that the vibrations start in the denser bone, but, being conducted on, are propagated by thinner and thinner bone (*i.e.*, a structure less and less capable of vibrating strongly), until they are finally safely conducted off to the terminal radii of the bone, which are *completely enveloped in membrane*, and are thus totally arrested? By this you can readily see that the injury inflicted upon one bone of an infant's head by a blow never passes beyond the one bone struck.

These efficient means for the arrest of vibrations explain the immunity from injury enjoyed by infants and children, where, considering the strength of their skulls, the injuries they receive with impunity are otherwise inexplicable. This is, indeed, fortunate, when we consider how "mobile" is the nervous system of the infant, and how seriously injuries of it are resented.

What, therefore, should we learn from this? That one of the most efficient means for arresting vibration in bone is to have it enveloped closely by a membranous tissue.

Turning to the adult skull, I would call your attention to the following points. The projecting parietal bosses, with the frontal eminences, are not so prominent, and, instead of being the thickest portions of the vault, they are often the thinnest. The eight component bones of the brain-case are more or less co-ossified, and are in bony contact. Let us remove the calvarium of both the infant and the adult. In the infant the various bony projections are certainly present, but the brain looks as if it would fit fairly. The base of the adult's skull looks as if nothing could be better fitted to lacerate the delicate brain, and is not at all correspondent in form. Here in front are the projecting anterior clinoids, there behind the posterior projections of the same name; here is a deep depression, there an elevation. If a cast of the base of the brain were taken, it would plainly show that there exists but little correspondence between this portion of the case and its contents. A blow on this practically solid ovoid of bone formed by the skull will infallibly set up vibrations, which will pass in any and every direction. Here is an organ of delicate structure which apparently has to lie upon a rugged and uneven bed. The ordinary motions of walking, much more those of running or jumping, would apparently imperil the integrity of the vital nerve-centres. What, then, upon the whole, renders the brain the best-protected organ in the body? Again let me say that the hair, scalp, etc., are excluded from consideration as tutamina in our present remarks.

The mechanical effect of the diploë, however, must not be ignored, especially in view of some statements with regard to it made by Dr. Allen in the paper already cited. In the first place, he denied the correctness of the usual descriptions of

there being two tables of compact tissue in the skull. On the contrary, he maintains that there is but one, viz., the internal, and that the so-called external table is only modified cancellous tissue.

I cannot agree with him, for, call it what you may, it is still a much more compact, dense structure than the subjacent diploë, and as such a vastly better conductor of vibrations. On the other hand, I entirely agree with him in thinking that the inner is the best and principal conductor of vibrations. Again, Dr. Allen cites the easily demonstrable fact that there is an actual absence of the diploë in certain portions of several of the cranial bones. The sites specially to be noted where this important element is absent are the cerebellar fossæ, the roof of the glenoid fossa, the greater part of the squamous plate of the temporal bone, the orbital plates of the frontal, and the floor of the lateral sinuses, as they approach the base of the brain. Here also my views clash with those of the author cited. He says that in these situations the internal and external tables are in contact, or, more correctly, that *both* diploë *and* external tables are absent. The importance of this will appear when he goes on to say that a blow struck upon any portion of the skull, if not of sufficient violence to pass the damper of the diploë to the internal table, is conducted to more distant points along the diploë itself, not by the external table, which he maintains does not exist. For me, however, it does exist, and is of great importance, for the following reasons. By Dr. Allen's explanation, both in injury and in the ordinary normal movements the slighter vibrations are confined to the diploë, while the more violent simply do damage by affecting the vitreous table despite the diploë and plus whatever vibrations may be present in the latter. I, however, would liken the two tables to two insulated wires, the insulating medium being the diploë. As long as the diploë is present, either of the two tables may vibrate separately, or both in differing degrees. At those places, however, where the diploë is absent, the two conductors of vibrations are in contact and the circuit is completed, the spark leaps across, and we have a shock; *i.e.*, to return from illustration to fact, the vibrations of differing intensity meet, and a fracture takes place, subject to certain modifying influences next to be referred to.

To return to our question, What renders the brain the best-protected organ of the body? This was when speaking of the apparent want of adaptation between the base of the brain and of the brain-case. The answer is, these very irregularities and projections, which seem fitted only to lacerate the delicate structures lying superimposed. Just where the greatest dissimilarity exists between the brain and its case, viz., in the central portion, in the normal state, the brain is distinctly lifted off from the bones by a stratum of fluid,—the cerebro-spinal fluid,—which serves, as Mr. Hilton points out, as a "water-bed." By means of this the cerebellum does not come into contact even with the posterior cerebral fossa, and the central portions of the cerebrum are held off at a distinct interval from the bones. Some such provision is absolutely necessary for the ordinary normal movements to proceed in safety. Without something similar, even walking—much more running and jumping—would inevitably result in fatal laceration of the brain-pulp. But its usefulness does not end here. What better means of arresting vibrations originating in the bony parietes which might otherwise prove prejudicial to the brain? Surely, nothing.*

Let me pass around this specimen of the base of the skull with its calvarium. By holding it up to the light you will see that there are certain thin portions mapped out by certain thicker ridges. This will be clear from the different transmission of the rays of light. These thicker portions, in general terms, converge towards the petrous portions of the temporal bone, the anterior and posterior clinoid processes, and the crista-galli of the ethmoid. Examine now with me the anatomical peculiarities of the parts mentioned. The anterior clinoids are surrounded by dura mater, and are immersed in the cerebro-spinal fluid. The same description will answer for the posterior clinoids. The apex of the petrous portion of the temporal bones, and a portion of their inner margins, seem, the former in contact with the sphenoidal body, the latter with the basilar process of the occipital bone. In reality, the apex of the petrous bone is separated from the body of the sphenoid by the plate of cartilaginous tissue filling the foramen lacerum medius, while the inferior petrosal sinus lies in a groove

* Of course the vibrations which meet at the base of the skull may neutralize one another.

formed partly by the petrous and partly by the basilar process of the occipital bone. Finally, the crista-galli is the point of attachment of the falx cerebri, in the commencement of which it is embedded. Let the skull now be set in vibration by a blow, and, instead of reaching the base by the "nearest" route, the vibrations will follow the nearest one, or *all*, of these *anatomical* routes.

I think, then, that I have demonstrated that these apparently useless and dangerous projections have a useful purpose, for each serves as the terminal discharge-point for the accumulated vibrations which *must* follow, by virtue of mechanical laws, the best *conductors*, viz., the densest portions of the bone,* which have been all stated to converge to the points mentioned. These points are provided with such efficient dampers of vibrations that all the ordinary and many of the extraordinary vibrations are rendered innocuous. Indeed, had this properly come within the scope of my paper, I think I could demonstrate that the ordinary vibrations are positively put to a physiological use.

Let me now apply the knowledge gained from these anatomical studies to the question of fracture of the cranial base.

The statement, then, made by Aran and others—that fracture of the base is invariably accompanied by a fissure of the vault, which in reality is the starting-point of the fracture—is, I think, incorrect, from the foregoing facts as to the conduction of vibrations, even if we exclude these specimens and the case I have related. If Aran's view were correct, the greatest force being applied at the weakest portion of the skull, viz., the vault, the fissures should be widest apart at that point, becoming smaller and less widely separated as they reach the denser and stronger positions of such bones as the petrous; but the reverse obtains. In proof of my statement, examine this skull. Again, the case taken as my text and the two specimens that I show you here, besides other recorded cases, show that in the slighter cases of fracture of the base the vault is not fissured. Now, if fracture of the base does occur in these cases without fissure of the vault, severer ones, where the vault is so injured, I consider, can be caused in the same way; but, the force exerted being greater, the fissures starting at the base simply extend farther, and thus implicate the vault. The separation of the masto-occipital suture in the three cases cited—mine and these two in the Mütter Museum—seems to give the key to the mechanism of the severer fractures. It would be impossible to produce this effect if the fracture started at the vault, unless the upper continuation of the same suture were separated, and that, too, more widely than below. Presenting the appearances seen, the injury must have been produced by a spreading force acting somewhat in the way moistened beans do in separating a skull. If the fracture of the base started in the vault, the suture could be separated only by fracturing it so as to drive one bone below the level of the other; but this is *not* the appearance found. If, on the other hand, it commences at the base, the vibrations fracture it, and, displacing the bones, the lower part of the masto-occipital suture would be—as it is—*forced apart from within.* This is clearly the case in the specimens that I show you, and in the case related. I believe that this is *always* so, and that the appearance in the three cases cited is the key to the whole subject.

By examining the phenomena presented by contusions of the brain, an additional proof will be found of this conduction of vibrations to the points mentioned. Prescott Hewett states that the *under* surface of the cerebellum is the part of that organ most frequently contused; that the posterior lobes of the cerebrum, resting, as they do, upon the tentorium, are but seldom injured; that the anterior lobes are more frequently so; but that the middle lobes are vastly more frequently contused. He explains these facts by the relative frequency of fractures in the various regions and the numerous sharp, irregular projections of the cranial base, "which, although rounded off to a certain extent, and smoothed down by the dura mater, are still both sharp and numerous." Now, as contusion is frequently found in various portions of the brain *without any fracture*, and as even in fracture of the base the fragments themselves do not usually injure the brain, the only explanation left is to consider them as largely due to the conduction to that point of powerful vibrations. As to the statements concerning the sharp points, etc., I can only refute them by again calling your attention to

* The dense ridges of bone described are also actually amplifiers of vibrations.

the actual preparations before you, together with the position of the cerebro-spinal fluid. How Mr. Hewett and M. Fano can make such statements after examining a skull in the fresh state passes my comprehension. They have eminent authority, however, to fall back upon, whose want of observation still more surprises me,—viz., Sir Benjamin Brodie, who says, "The great irregularities which exist on the inner surface of the basis of the cranium sufficiently explain wherefore the inferior is more liable to be ruptured than the superior surface of the brain." Mr. Hewett adds, "And nothing could be more explicit." It is only *explicable* to me by supposing that they examined—as is much too customary—only the *dried*, not the fresh, skull.

Let us examine President Lincoln's case, similar ones to which are explained by Longmore in the following manner: The lesions are to be ascribed to a "transmitted undulatory stroke or sudden impulse of the brain-substance itself against the thin bony layers constituting the orbitar plates. I am in possession . . . of the notes of a case in which a similar fracture took place in one orbitar plate, from a ball passing along only grooving the upper surface of the hemisphere lying over the plate broken." Dr. Otis, as before said, accepts Prof. Longmore's opinion as being more satisfactory "than the hypothesis that the fracture was produced by *contre-coup*. The unusually thin orbital plates on either side were exposed to the impulse of the cerebral pulp. Even if they were not fully protected from the vibrations in the vault of the cranium by the dense supra-orbital ridges, it might be inferred that the force would be transmitted mainly to the right orbital region, or that opposite the entrance-perforation, whereas *both* orbital plates were fractured."

Dr. Allen also quotes Prof. Longmore's reasons for thinking that the shock could not be transmitted along the cranial walls to "the expanse of the frontal bone itself and the several processes within which the orbital plates are held, and by which they are so strongly protected in all directions laterally." As I have just said, my study of the cranium leads me to a very different conclusion with regard to Lincoln's fractured base from that of Dr. Allen. Let me quote his own words: "Now, in the case of President Lincoln, the ball, not expending its force about the wound of entrance, yielded the greater part to both tables of the cranium. The outer diploic layer appropriated the vibrations, and transmitted them to the great wings of the sphenoid bone, and thence to the axis of the cranium, without injury to the skull. The inner plate, not having any means of diverting its burden of force, carried it forward in two different lines from the wound of entrance to the orbital plates (which lie, as is known, about on a level with the upper margin of the tentorium), and broke them. It is to be inferred that, had the ball entered either above or below this line, the conduction of waves towards the forehead would have been greatly modified." How it is possible for the orbital plates to be protected from vibrations by the "dense supra-orbital ridges" I cannot see, nor why the "right orbital plate" should be more likely to be broken, except upon the old exploded theory of *contre-coup*, is not plain. Again, Prof. Longmore, with Dr. Otis, seems to misapprehend a most important mechanical fact. If the force which breaks the orbital plates be of the nature of a something from without, entering between the particles of the bone and pressing them asunder, *then* the "expanse of the frontal bone," the "several processes within which the orbital plates are held, and by which they are so strongly protected in all directions laterally," and the "dense supra-orbital ridges," might perhaps avail. The truth is, however, that it is the vibrations of the bone itself which become so marked as to overcome the cohesion between its particles, and some, if not all, of the same dense bony ridges are the means by which these disrupting waves reach the orbital plates.

It is stating a mechanical impossibility to say that the vibrations were carried "forward in two different lines." As well might one expect a pebble thrown into water to send ripples in but two directions. The truth is, that the ball, entering one inch to the left of the median line, just above the left horizontal arm of the occipital cross, started vibrations which passed in *every* direction. If, however, the views are correct which I have just explained, the vibrations soon met with the thickened margins of the groove for the superior longitudinal sinus, which, being the best conductor and reinforcer of them, carried them to the frontal bone and crista-galli. The usual damper of vibrations here was

insufficient, and, they being propagated through the anterior fossa, the weaker parts of the latter gave way. Doubtless, too, vibrations reached the orbital plates through the lesser wings of the sphenoid, and were coefficient in producing the fracture. On the other hand, those passing downward were safely conducted off by the means already indicated when speaking of the course of the vibrations.

A valuable fact pointed out by Prof. Allen is, that the occipital condyles really consist of two facets, often entirely separated from each other by a distinct groove, and he points out how if, at the time of force being applied, say from a fall on the feet, the head be extended, the force will affect chiefly the posterior facets, while if the head be flexed the anterior ones will have to bear the brunt. This probably explains, always subject to the laws of conduction of vibrations, why in one case a fall on the feet produces a fracture of the anterior, and in another a fissuring of the posterior fossa.

Finally, we come to the reasons for the fatality of basal fractures. Of course, in the extensive tremendous crushes frequently found no explanation is needed. But recall to mind the cases I have related where the injury was so slight as almost to produce no symptoms at first; where the contusion of brain-substance, if such existed, was at a minimum; where, in my own case, no inflammatory symptoms were present. Here, clearly, some explanation is demanded. As long as such patients are quiet, as long as no vibrations are excited by the movement of locomotion, just so long the brain-substance contiguous to the lines of fracture remains uninjured. The primary jarring and slight contusion are recovered from; and, should quiet be sufficiently long maintained, recovery ensues. Let, however, the patient, tempted by his apparent recovery, leave his bed, immediately the normal vibrations which must mechanically arise are excited, and what follows? Before, in a state of health, they were safely conducted to points where they were annihilated; but now their course is interrupted by the fissures, and the superimposed brain-substance is jarred and probably slightly lacerated. From such constantly-recurring injuries, slight though they be, results, in the adult, meningitis or encephalitis, in the child, as in my case, very probably eclampsia, due to the greater excitability of the young brain. In proof of these slighter injuries induced by the slighter vibrations, let me again refer to the severer ones seen in extensive shattering of the base. As I then said, upon anatomical grounds, those found in the cerebellum and middle lobes of the brain cannot be produced to any great degree by direct injury from the fragments, but result from the tremendous vibrations conveyed to the brain when the bones gave way.

It must now be clear that the anatomical facts demonstrated show: 1. That vibrations originated at any part of the skull do *not* pursue the most direct course, although they *do* follow the most direct anatomical route, to the base of the skull,—some, indeed, following all the anatomical courses, but the more distant more feebly, owing to the damping effect of the diploë and other tutamina of the brain. 2. That the means for rendering innocuous the ordinary jars of normal motions and many of the accidental blows, when the force applied is excessive, tend to the destruction of certain parts. 3. That fractures of the base much more commonly than is usually taught nowadays start *from* the base and extend thence into the vault. 4. That, when the normal route of the vibrations is interrupted by a fissure, those produced by ordinary normal movement, then being prevented from terminating in their proper dampers, injuriously affect—perhaps even slightly lacerate—the brain-substance, and thus largely account for the greater fatality of such injuries over those of the vault. 5. That these facts should impress us with the necessity for the most rigid enforcement of quiet in cases where we suspect or are certain of a fractured base, where quietude must be maintained for a lengthened period.

TUBERCULOUS LARYNGITIS.—When there are great pain and dysphagia, the following mixture, applied with a laryngeal brush, is recommended by Dr. E. Fletcher Ingalls. The relief produced by the application of this has given more satisfaction, says Dr. Ingalls, than anything else in the course of his professional life:

℞ Morphiæ sulph., gr. iv;
Tannin, gr. xxx;
Acid. carbolic., gr. xx;
Glycerin., ℥j.—M.

New York Medical Record.

HEMORRHAGE INTO THE BASAL GANGLIA, FOLLOWED BY EFFUSION OF BLOOD INTO AND BEYOND THE VENTRICLES, SYMPTOMS AND LESIONS OF APOPLECTIC SHOCK, CHEYNE-STOKES RESPIRATION, HIGH HEAD-TEMPERATURE, ETC.

Read before the Philadelphia County Medical Society, September 22, 1880,

BY CHARLES K. MILLS, M.D.,

Neurologist to the Philadelphia Hospital; Visiting Physician to the Norristown State Hospital for the Insane.

G. H., aged 62 years, while eating his dinner, suddenly fell unconscious. For several months before he had at times complained of dizziness and queer feelings in his head. His radial and other vessels were hard, and evidently the seat of degenerative change. When first seen by Drs. Allison and Gibb, two of my internes at the Philadelphia Hospital, a few minutes after the attack, he was profoundly unconscious, his breathing being puffing.

At this time marked right-sided paralysis was present. In the face, both the upper and lower fibres of the facial were involved; the eye remained partly open, and the mouth was pulled decidedly to the left. The right arm and leg were also powerless.

The patient was seen by me two hours after the onset of the attack. He was lying on his back, unconscious. The loudest shouts had not the slightest arousing effect. His face was pale. His left eye remained closed, but the eyelids of the right side did not come quite together. The pupils were equal; they were sluggish, but neither dilated nor contracted. Conjugate deviation of the eyes was not present; his eyes were directed straight forward. On irritating the conjunctivæ, a good reflex response was elicited. The mouth was drawn very slightly to the left,—so little that it needed careful observation to determine the fact. The right nostril was more dilated than the left. As far as general appearances went, little difference in the paralytic condition could be made out between the limbs of the right and left side: close examination, however, showed a more profound paralysis of the right arm and leg than of the left extremities; he occasionally moved the left arm and leg. A slight tendency to flexion was also present at the right elbow, in the fingers of the right hand, and at the right knee. This was not noticeable on the left side. While dictating notes upon the case, I observed a slight movement of flexion in the middle finger of the right hand, and a tremulous muscular wave in the corresponding metacarpal region. This was followed by a twisting or rotating motion of the forearm, from the position of supination towards that of pronaotin. These movements were repeated three times in the course of a few minutes; and then an exactly similar tremulous and spasmodic action was gone through with by the finger, hand, forearm, and arm on the left side. Still later the same took place on both sides simultaneously. The right great toe also twitched upward and downward at intervals of a few minutes.

Efforts were made to test for sensibility, but without result. He was totally unconscious of external impressions. Reflexes, however, were marked. The plantar reflex on the right side was good, and on the left it was decidedly exaggerated. Skin reflexes in the thighs, abdomen, chest, and arms were also examined for, and with the same result,—namely, the determination of good reflex response everywhere, and for the regions of the left half of the body not only good, but exaggerated. I did not examine for patellar reflexes, as I did not wish to move the patient any more than could be helped. The reflexes from the triceps brachialis of each side were marked.

Examination of the right radial pulse showed eighty-eight beats to the minute; of the left radial, ninety-two. The character of the pulse on the two sides differed markedly: on the right it was comparatively full and strong; on the left it was frequent, feeble, and irregular. The temperature taken in the right axilla was 99.1° F., in the left it was 99.2° F.

The respirations were forty-four to the minute when first counted. Noticing that at intervals he stopped breathing, with my resident physicians I carefully watched the process of respiration for more than half an hour. He would breathe with a little noise, but steadily, for from four to five minutes, and then, either with a long-drawn sigh, or with a struggling sound in the throat, he would cease breathing entirely, the period of complete suspension lasting from one-eighth to one-fourth of a minute. At the end of this period of apnœa, respiration would begin, at first feebly, but gradually becoming stronger. At the expiration of from four to five minutes the gap in breathing would recur. In this way his respiration continued, with alternations of breathing and apnœa. During the hiatus in respiration the pulse at the wrist became slower, fuller, and firmer. The heart-action was more labored. The face did not change in color or appearance, remaining pale and expressionless.

A drop of croton oil in castor oil was administered, the patient swallowing the dose with but little difficulty. Warming-pans were applied to his feet. He was ordered to be kept perfectly quiet, and milk in small quantities was directed to be given at intervals, if possible. A prescription containing potassium bromide and tincture of aconite was also ordered.

The stroke occurred at 11 A.M. He was

seen by me, and the above points noted, from 2 to 3 P.M. From 3 o'clock until he died, at 11.15 P.M., Drs. Allison and Gibb were in almost constant attendance upon him. The paralysis of limbs and face became absolutely general. The pupils became more dilated, and the face paler. The surface of the body was bathed in perspiration. The slight spasmodic movements in the upper extremities ceased during the afternoon. His urine, which dribbled from him, was removed by the catheter. Subsequent examination of it showed no albumen. No passage from the bowels took place. The heart-action and pulse became more rapid and feeble. At 6 P.M. the temperature taken in the right axilla was 100.8° F., in the left it was 101.2° F. The surface-temperature of the head at two points was carefully taken with a modified Seguin thermometer, at 7 P.M. The points selected for observation were one on the right side of the head, and the other on the left, about the middle of the "line of Rolando,"—that is, the line on the outside of the skull determined by measurements to correspond to the fissure of Rolando within. The patient being bald, the observations were more easily made and more likely to be accurate than if the hair had been in the way. The right Rolandic station gave a temperature of 102° F., the left only 98.5°. The axillary temperature was taken again at 10 P.M.: for the right axilla it was 101.2°, for the left it was 101°. The Cheyne-Stokes type of respiration continued until 9 P.M., when it gave place to rapid and shallow but interrupted breathing.

A post-mortem examination of the brain was made thirteen hours after death. On removing the skull-cap, a large quantity of blood poured out. The blood which escaped during the entire autopsy was collected, and amounted to fifteen fluidounces. Neither the skull nor the dura mater presented any abnormal appearances. The pia mater of the convex and median surfaces of the left hemisphere was intensely hyperæmic, except at its extreme anterior end. A large ecchymotic area more than two inches in diameter was present beneath the pia mater over the posterior extremities of the superior and inferior parietal convolutions and adjoining anterior margin of the occipital lobe. A deeper zone of congestion, with slight ecchymosis, was also to be seen at the middle Rolandic region. The pia mater of the convexity of the right hemisphere presented nothing unusual except marked hyperæmia over the lower two-thirds of the ascending convolutions and the anterior end of the inferior parietal lobule. Stripping the pia mater, numerous slight hemorrhagic extravasations were found in the fissures and sulci, particularly in those of the right side. During the process of removal of the brain from the skull, large quantities of blood poured from a rent in the end lobule of the right occipital lobe. Resting the brain on its convex surface, large masses of dark blood could be seen occupying the central region of the base from the pons to the optic chiasm; the blood enveloped the cranial nerves in this area, and infiltrated the membranes and the spaces beneath them far out into the Sylvian fissures. The cerebellum, pons, and medulla oblongata were next examined, leaving the ganglia and white matter of the hemispheres to the last. Over the superior vermiform process of the cerebellum was a thick mass of clotted blood. Hemorrhagic foci were found here and there in the pia of the cerebellar hemispheres, the substance of which showed a few bloody points. The fourth ventricle was filled and distended with dark blood; its floor showed a very slight depression or splitting at its upper part; the aqueduct of Sylvius was greatly dilated. The lateral ventricles, which were entered from below, were filled with blood; their cornua were also enormously distended with blood. The septum lucidum, fornix, corpus callosum, and commissures were broken down, and the lateral and third ventricles had become one cavity engorged with blood. The ganglia and tracts of the right side were closely examined without finding any hemorrhagic centre. The anterior extremity of the left optic thalamus and the cue-portion of the caudate nucleus were broken through. The hemorrhage had apparently taken place either from one of the lenticulo-optic or one of the posterior internal optic arteries. The middle portion of the internal capsule and adjoining region of the lenticular nucleus, as well as the districts of the optic thalamus and caudate nucleus, to which I have referred, had been disintegrated by the extension of the hemorrhage. I determined positively by vertico-transverse sections that the anterior regions of the striate bodies and capsules, and the posterior portions of the optic thalamus, capsules, and lenticular nucleus, were not destroyed. The hemorrhage had evidently spread rapidly in all directions from its primitive centre internally, breaking through with great force into the lateral ventricle. Numerous miliary aneurisms were found along the course of the striated and other arteries. No softening of the convolutions, or lesions other than those described, were discovered. The post-mortem examination was limited to the brain and skull.

Remarks.—The different stages of paralysis shown by the case are explicable in the light of the post-mortem examination. The marked right hemiplegia present at first was due to the effect of the primitive hemorrhage upon the ganglia and motor tracts of the left hemisphere. When the brain-substance was torn through and the ventricles became filled with blood, press-

ure was exerted upon the tracts of both sides, and general paralysis supervened. Until late in the history of the case, however, close examination, as might be expected, revealed a more decided paralysis on the right side.

According to Bastian ("Paralysis from Brain Disease," p. 232), "in cases of ventricular hemorrhage we very frequently meet with tonic spasms of one, two, or more limbs; or tonic may alternate with clonic spasms in the same parts. In other instances we have a condition of rigidity in the limbs of one side, combined with clonic spasms in one or both extremities of the opposite side." The only spasmodic phenomena presented by the case here recorded were the slight tendency to flexion at the right elbow and knee, and in the fingers, and the movements of flexion in the fingers and of rotation of the forearm and arm, and the twitching of the right great toe. Marked rigidity or contracture was absent. It may be worth while considering whether the ecchymoses beneath the pia mater in the motor regions of the cortex may not have been the cause of these peculiar movements.

The exaggerated reflexes on the side of the lesion, and the marked differences between the right and left radial pulse, were points worthy of note.

The axillary temperature, unfortunately, was not taken until two hours after the occurrence of unconsciousness, when it showed 99.1° F. for the right axilla, and 99.2° for the left; at 6 P.M. it was 100.8° for the right, and 101.2° for the left; at 10 P.M., 101.2° and 101°. Supposing an initial lowering of temperature to have taken place before the first observations were made, the case would come under the second group of Bourneville, of cases terminating fatally in from one to two days, in which the temperature is primarily lowered and afterwards heightened.

The observations on surface-temperature were remarkable because of the high temperatures obtained and the great difference between the two sides of the head. Broca, Brown-Séquard, Gray, and myself have found the temperature of the left side of the head to be usually greater than that of the right. Gray (*New York Medical Journal*, August, 1878) gives the following as normal average temperatures: Left side of the head, 93.83° F.; right side, 92.92°. The maximum normal temperature of the head is between 94° and 95°. Very striking, then, is the observation made in this case of a temperature of 102° for the right and of 98° for the left Rolandic station. I do not recall any observations on head-temperature in cases of cerebral hemorrhage.

The respiratory phenomena exhibited by this case were of great interest. Respiration after the stroke exhibited three stages: 1st. For a short time it was what has been called the "tobacco-smoker's respiration." 2d. It soon changed to the Cheyne-Stokes type, and continued of this character for several hours. 3d. Two hours before death the Cheyne-Stokes respiration ceased, and the breathing became regular, but constantly feebler and shallower. The breathing in the first of these stages is that which is not infrequently seen in cases of deep unconsciousness from apoplectic strokes or cerebral traumatisms. Observers are perhaps too much in the habit of describing the respiration in apoplexies simply as "stertorous." The peculiarities of respiration should be carefully studied in each case. I agree entirely with Nothnagel (Ziemssen's Cyclopædia, vol. xii. p. 102) that the noisy, snoring, "stertorous" respiration is not universally present in hemorrhagic apoplexy, and is, moreover, met with in sopor due to other causes. The respiration in the second stage was perhaps not in every particular of the usual Cheyne-Stokes type, but it was certainly a form of this respiration, which has been described by Laycock as "recurrent brief apnœa,"—an expression very applicable to this case. The period of nearly regular breathing was comparatively long, being from four to five *minutes*, the apnœal stage lasting from eight to fifteen seconds. Sometimes in the Cheyne-Stokes respiration the breathing will be interrupted several times in the same minute. The respirations presented the ascending character, beginning after the apnœa with feeble movements and progressively increasing until a certain plane was reached. The descending scale described as usually present was, however, absent, the respirations stopping abruptly. It was not a true "ascending and descending respiration." Traube (*Berl. Klin. Wochenschr.*, 1869, No. 27) first directed attention to Cheyne-Stokes respiration in cerebral hemorrhage. According to Traube (quoted by Rosenthal, "Clinical Treatise on Diseases of the Nervous System,"

vol. i. p. 159), this type of breathing is produced by an insufficient supply of arterial blood to the medulla oblongata. This lessens the irritability of the respiratory centre, so that the normal quantity of carbonic acid present does not suffice to provoke an inspiration. The long intervals in the respiration are to allow large quantities of carbonic acid to collect in the pulmonary and general circulation. Schiff (Foster's Physiology, American edition, p. 479) has observed Cheyne-Stokes respiration as the result of compression of the medulla oblongata. In this case, great and somewhat varying pressure was exerted by the blood in the fourth ventricle.

What is taught by this case in regard to the nature of the apoplectic shock or stroke? The view that apoplectic shock, as well as traumatic shock, is, sometimes at least, caused by sudden displacement of the cerebro spinal fluid, seems to be well borne out by the lesions found after death. The sudden and copious hemorrhage probably caused an instantaneous rush of the intraventricular cerebro-spinal fluid through the aqueduct of Sylvius into the fourth ventricle, upon the vital centres of the floor of which it acted in such a way as to cause the sudden arrest of the functions of the brain. This is the doctrine of Duret. The laceration in the ventricular floor, the ecchymoses beneath the pia mater at various points, the minute extravasations into the brain-substance, and the hyperæmia of the membranes, were lesions exactly similar to those found in cases of cerebral concussion.

I have seen the post-mortem specimens from another case of ventricular hemorrhage, although I had not the opportunity of studying the patient's condition during life. The appearances were in many respects the counterparts of those presented by the present case,—the partitions between the ventricle broken down, the cornua distended, the Sylvian aqueduct dilated and torn, etc. The condition of the pia mater and surface of the brain was, however, more remarkable than that exhibited by the case reported this evening. Both the pia mater and the cerebral substance were in the highest degree hyperæmic, the case affording me the most striking illustration of congestion of the brain and its membranes which I have ever seen. The vessels in many places seemed just ready to burst. Hemorrhages of considerable size had occurred in several places. A large clot having no connection with the ventricular hemorrhage was found on the outer surface of the medulla oblongata; another, also of large dimensions, was discovered in the right Sylvian fissure, just over the outer edge of the island of Reil. Other extravasations of blood, of less size, were found in the left fissure of Sylvius, and at various points on the cerebral and cerebellar surface. These hemorrhages all evidently occurred after the burst into the ventricles, and were probably the result of the displacement of the cerebro-spinal fluid and the disturbances of the circulation caused by the apoplectic shock.

1502 Columbia Avenue, Philadelphia.

THE PHYSIOLOGICAL ACTION OF ALCOHOL ON THE CIRCULATION.*

BY J. D. CASTILLO, M.D., U.S.N.

INCREDIBLE as it may seem, no thorough study of the action of alcohol on the circulation has yet been made, the only papers on the subject being those of Parkes and Wallowicz ("Experiments on the Effects of Alcohol on the Human Body"), Zimmerberg (quoted in Dr. H. C. Wood's Therapeutics, p. 119, 1879), and Dogiel (*Pflüger's Archiv*, 1874, Bd. viii.), which are far from being complete. The last two observers performed their experiments on animals, but furnish us results which are not only directly opposed to each other, but are entirely contradictory of what we know of the physiological action of alcohol from its clinical use. These facts would lead us to suppose that some fallacy underlies some of their experiments, and this suspicion becomes a fact when the results of the present elaborate investigation and the knowledge we have gained from its clinical use are compared with them. The advantages of considering *seriatim* the action on different portions of the circulatory system are patent, and I will, therefore, first consider the action on the pulse, and then that on the arterial pressure.

The pulse.—The pulse-rate, as well as the character of the pulse-curves, is very decidedly affected by alcohol, this action differing very materially whether the drug is given in small or in large intravenous doses.

* Abstract from Prize Inaugural Essay, University of Pennsylvania, March, 1880.

Small doses cause an increase of the pulse-rate with increased cardiac force, the pulse is full, strong, and regular, and the curves are higher, and the arterial pressure is increased above normal. The increase of the pulse-rate ranges from one-fourth to one-half of the normal. Thus, in a rabbit to which 10 m. dilute alcohol were given, the pulse was increased from 96 to 156 in one minute after intravenous injection; a minute and a half later it marked 164, and then gradually subsided. In a large dog to which 1 cc. absolute alcohol was given per jugular vein, the pulse arose from 112 to 180 in three minutes, and was full, regular, and strong. If these small doses are often repeated, the pulse becomes extremely rapid, feeble, and irregular, and is accompanied with a marked diminution of the arterial pressure. By continuing the administration the pulse continues increased, the pressure gradually falls, and suddenly the heart is arrested in diastole. At other times by repeated injections of small doses the pressure is lowered, the pulse-rate slowed, and the cardiac power is observed to fail gradually; finally, a last injection arrests the heart in diastole. It is to be noted that small doses cause an increase of the pulse-rate, with a strong, full, and regular pulse, and increased arterial tension; small doses, frequently repeated, cause an increased pulse-rate, with a pulse rapid, feeble, and irregular, and diminished arterial tension, indicating that the increase in the former instance is a stimulant action, and in the latter one of depression.

Larger doses cause an immediate fall of the pulse-rate, with irregular pulsations; the pulse-rate then returns to or goes above the normal, but is accompanied by diminished blood-pressure. The increase above normal may be equal to one-half of the normal. If while this increase exists another dose is given, the rate may be still further increased, but the arterial pressure is considerably diminished; or it may immediately sink, the heart in a few minutes being arrested in diastole. The diminished arterial tension accompanying the very marked increased pulse-rate, and the rapid, feeble, and irregular pulse-curves, show an interdependence of change from the normal, and indicate that the increased pulsations and diminished pressure are dependent not upon stimulation, but upon depression. Still larger doses cause the pulse-rate to become immediately greatly decreased, the blood-pressure to fall rapidly, and the heart to be soon arrested in diastole. Small doses, therefore, cause an increased pulse-rate, with strong, full, and regular pulse-curves, and increased arterial pressure; while large doses may cause an increased pulse-rate, with feeble and irregular pulse-curves, and diminished arterial tension, or a decreased pulse-rate, with diminished pressure, from very large doses.

Parkes and Wallowicz found in their very carefully conducted experiments that the pulse-rate was increased with increased force. Dogiel states that the pulse is first increased, then diminished, then increased again, and Zimmerberg, that the pulse-rate is decidedly reduced; but it must be borne in mind that the latter used alcohol in very excessive doses, being equal in man to doses of a quart or two: thus, the reason why he got such a decided reduction of the pulse-rate was because of the enormous doses he employed. Dogiel does not publish his experiments, and it is impossible to see where his error lies. The results of my own numerous experiments being uniform, and corresponding with the knowledge derived from the clinical use of alcohol, and with the results Parkes and Wallowicz furnish, seem to insure their correctness, and it remains now to investigate in what way or through what media alcohol effects these changes.

Dogiel asserts that the primary increase is due to a stimulation of the accelerator nerves, the diminution to a stimulation of the par vagum, and the final increase to a paralysis of the par vagum. Zimmerberg states that the diminution of the rate is due to a stimulation of the vagi centres. In my own experiments on animals with cut vagi nerves, seven in number, it was found that the changes in the pulse-rate were the same precisely as in normal animals, thus showing that these changes are wholly independent of any action on the peripheral vagi nerves. Next, three experiments were made on animals with cut cervical cords, artificial respiration being maintained, and it was found that no change from the above results occurred, thus excluding the vagi centres. In other animals the accelerator nerves were cut, with the same results, showing that neither the par vagum nor the accelerator nerves were affected. This certainly indicates that all these changes in the pulse-rate occurring in normal animals must

be effected by an action on the heart alone. In order more fully to prove this, a number of animals, with both the vagi nerves and cervical spinal cords cut, were experimented upon, and the results were the same. It may, therefore, be considered proven that the increase of the pulse-rate, with full, strong, and regular pulse-curves, and increased arterial tension, is due to a direct stimulation of the heart; and that the increased pulse-rate, with rapid, feeble, and irregular pulse-curves, and diminished arterial tension, and also the diminished pulse-rate, are due to a depression of the heart.

Blood-pressure.—Alcohol in small doses has no effect, or else causes an increase of pressure, while large doses cause a decrease. Dogiel asserts that the pressure is primarily increased and secondarily diminished, and that during the latter condition the vaso-motor centres are paralyzed. Zimmerberg with his excessive doses always got a decided fall, which he attributed to the heart. In my own experiments I attribute both the increase and the decrease to a direct cardiac action, since it has been found that after the isolation of the heart from any centric nervous influence the same changes in pressure still occur, and as I found that when the fall of pressure was very pronounced the vaso-motor centres and peripheries were still intact,—the vaso-motor centres responding normally when the sciatic nerve was stimulated, and the vaso-motor peripheries in the web of a frog's foot, under a microscope, remaining unchanged after the hypodermic injection. If alcohol is directly applied to the web, a contraction occurs; but this is undoubtedly due to a direct irritant action.

It may, therefore, be concluded from the uniform results of my fifty-odd experiments—

1st. That alcohol in small doses causes an acceleration of the pulse, with increased cardiac force.

2d. That this acceleration of the pulse and the increase of the cardiac force are due to a direct stimulation of the heart.

3d. That alcohol in larger doses causes an acceleration of the pulse, with diminished cardiac force, and that this is due to a direct depression of the heart.

4th. That if the dose be excessive the pulse-rate is diminished from the first, or the heart may be immediately arrested, being due to a direct paralysis of the heart.

5th. That the heart is always arrested in diastole.

6th. That small doses cause a rise of the arterial pressure.

7th. That large doses cause a fall of the arterial pressure.

8th. That these changes effected in the arterial pressure are due to the action of alcohol on the heart alone, in the former case being one of stimulation, and in the latter one of depression.

9th. That alcohol in small doses is a cardiac stimulant, and in large doses a cardiac depressant.

PHYSIOLOGICAL LABORATORY, UNIV. OF PENNSYLVANIA.

PRELIMINARY NOTE ON POISONOUS DYE-STUFFS.

Read before the Philadelphia County Medical Society, September 22, 1880,

BY HENRY LEFFMANN, M.D.

GENTLEMEN,—I present this evening a brief notice of some observations upon the topic of poisonous dye-stuffs, my object being mainly to inform the members that I am engaged in studying the subject, and invite assistance in so far as to be allowed opportunity of making chemical examinations in cases which appear to arise from poisons of this class.

It will not be necessary to explain to what effects I refer. Irritation and inflammation of the skin are the most common forms in which the poisonous action of dyed fabrics is supposed to show itself. A case of skin disease limited to a part of the body which has been in contact with a highly-colored article—shirt or stockings, for instance—is at once ascribed to the dye-stuff, and, as a rule, to some metallic poison contained in it.

Without occupying time in the discussion as to what metals may cause the trouble, I shall here limit myself to the one which is most commonly charged as the cause,—arsenic. This substance is widely distributed, is found in many common chemicals, and may thus easily find its way into dyes. Of late years an additional liability to its presence has arisen from the fact that certain organic dyes are manufactured by the use of arsenic acid and a portion of the poison remains in the dye.

The preliminary investigation has been directed to discovering how far the arsenic

which is in these dyes may find its way into the fabric. Experiments made upon aniline red, as sold to dyers, showed that some samples did not contain arsenic. Yarns dyed with samples that did contain arsenic were examined by delicate tests, and did not show indications of arsenic. Samples of the liquid, both before and after the immersion of the yarn, were examined, the result indicating that very little if any of the arsenic was removed by the fabric. I submit herewith a sample of cotton yarn dyed with an arsenical aniline in the proportion of ten ounces of color to one hundred pounds of yarn. Portions of this yarn, being tested, showed no indication of arsenic.

An interesting case occurred some months ago in Syracuse, New York. A woman purchased at one of the carpet-stores in that city a number of yards of carpet, and proceeded to make it up. She was soon attacked by some skin trouble, which she ascribed to the carpet, and she complained to that effect to the dealers. They at once stopped the sale of the goods, wrote to the wholesale house in New York City from which they purchased the goods, and this house at once sent the complaint to the carpet-works in this city. A sample of the carpet was submitted to me. I made careful tests for arsenic, and found none. I submit the sample and give a list of the various dyes used in it. Those in italics are most likely to contain arsenic.

Cotton warp: white, starch size; green, Prussian blue, flavine, turmeric, *sulph. indigo*, alum; orange, flavine, hypernic, *tin solution*. Woollen woof: white, bleached and tinted with *sulph. indigo;* green, picric acid, *sulph. indigo*, alum, Glauber's salt, *oil of vitriol;* orange, flavine, cochineal, *tin solution;* ruby, *magenta*, turmeric, Glauber's salt, *oil of vitriol.*

I hold that the explanation of many cases ascribed to these dye-stuffs is either coincidence or idiosyncrasy; and I shall be obliged to the members of the Society for any opportunities which may be afforded me for making further investigations in the matter.

THE first Boylston prize question for 1882 is a premium of three hundred dollars for the best dissertation on sewer-gas and its physiological effects on animals and plants. It is an experimental inquiry.

A NEW MYDRIATIC—ADDITIONAL NOTE.

BY H. S. SCHELL, M.D.

THE appearance of an article under the above caption, in the *Times* for October 9, has naturally aroused the inquiry, "What is it?" In response, I would say that homatropin is a derivative of atropin, and is so named because of the similarity of its properties to those of the latter drug.

Homatropin was discovered by Professor A. Ladenburg, of Kiel, in the course of some experiments upon the synthesis of atropin. He has so far succeeded in this purpose as to be able to recombine the primary products of the decomposition of the natural alkaloid. By the action of baryta and hydrochloric acid atropia is split into *tropin* and *tropic acid*, as follows:

$C_{17}H_{23}NO_3 + H_2O = C_8H_{15}NO + C_9H_{10}O_3$.
Atropia + water = tropine + tropic acid.

In the course of investigations as to the possibility of making tropine and tropic acid artificially, he discovered that the former, under the action of strong hydrochloric acid and other conditions, is converted into a new base, which he calls *tropidine* = $C_8H_{13}N$. It is of an oily consistency, and has no effect on the pupil.

A number of new bases, called *tropeïnes*, have been obtained by warming tropine with organic acids and diluted hydrochloric acid. The only one of these which seems to possess special interest is homatropin, or *oxytoluyl tropeïne*. It is prepared from tropine, amygdalic and dilute hydrochloric acids. Merck states that it crystallizes in transparent, colorless, regular crystals. These are hygroscopic, and, at the same time, do not readily dissolve in water.

The *hydrobromate*, on the contrary, forms a salt which is not hygroscopic, but which is soluble in ten parts of water, and the solution keeps well. Merck, of Darmstadt, has undertaken the manufacture of homatropin hydrobromate on a large scale. It will, no doubt, be extensively used as its properties become widely known. I find it convenient to rely upon it exclusively in refraction cases in my consulting-rooms.

THYMOL.—Thymol-vaseline ointment is made by dissolving twenty grains of thymol in an ounce of vaseline. It is useful in eczema and as a parasiticide.

NOTES OF HOSPITAL PRACTICE.

PHILADELPHIA HOSPITAL.

CLINICAL SERVICE OF DR. HORATIO C. WOOD.

Reported by C. H. WILLITS, M.D.

CASE OF CLOT BELIEVED TO BE IN CRUS CEREBRI, FOLLOWED BY HEMIPLEGIA AND BY LOSS OF SENSIBILITY AND OF SPECIAL SENSES. ALSO, CEREBELLAR TUMOR WITH AFFECTION OF SPECIAL SENSE.

I WANT to call your attention to-day, gentlemen, to a case of brain-disease which is very interesting from a diagnostic point of view, but which, unfortunately, is not so interesting to the patient in reference to a cure.

This man, B——, aged 67, a sailor by occupation, presents the following brief history: eighteen years ago he fell from the mast-head of a ship, from the effects of which fall he remained unconscious for sixteen days, and when he awoke was paralytic, with the symptoms still persistent.

Now, you will notice that the patient is a powerfully-built man, with good muscular development, but, as he walks or stands, seems to have no control over the right side, and in walking uses his right leg in the manner of a walking-stick, the muscles being perfectly rigid and all motion being seated in the pelvis, the side of which is elevated at each step. You will notice also that the right arm and hand are paralyzed, the index-finger only retaining some slight motion; and if you will pay particular attention while I ask him a question, you will be impressed by his particular intonation when he speaks. There is no aphonia, because no loss of voice, and no loss of speech, therefore no aphasia; but he has, more correctly speaking, aphamia, or loss of the power of articulation, due to paralysis of the muscles of the face.

It is, therefore, a case of right-sided hemiplegia. There is nothing remarkable in that; but when I stick a pin into his arm he does not feel it, or if I make a pincushion of his leg, the pin can penetrate any depth without any apparent pain.

Again, if I put this burning match against his leg, he is not conscious of it until it has been in contact a long time; nor does he recognize the presence of ice.

Along with this loss of sensibility there is almost total blindness of the right eye, he not being able to see my fingers placed close to the eye, and the pin brought in contact with it shows entire loss of conscious sensibility, although the reflex movements are retained.

When my watch is placed close to the ear he cannot hear it, and when I place some salt in contact with his tongue there is no apparent sense of taste.

We have, then, the history of a blow on the head, from which resulted right-sided hemiplegia and loss of general sensibility which comes up close to the median line of the body without crossing to the opposite side, and complete loss of the special senses, these symptoms all having come on suddenly, not gradually.

Now, what is the matter with the man?

There is little doubt that this man has a clot, resulting from the blow, somewhere in the brain, and that this clot must be situated in the brain proper, and not in the pons or medulla oblongata.

For physiological purposes the brain is divided into two parts, the lower brain, or mesocephalon, and the higher brain, or cerebral centres. In this case the clot cannot be situated in the mesocephalon, because the influence is far too wide-spread.

Most of you know that there are two kinds of action, conscious and unconscious, or voluntary and involuntary, and that it is not necessary for action that we perceive an impulse, for it is a common thing for us to move unconsciously in either anger or sleep. When an impulse is transmitted along a sensory nerve it is received at the receptive centre of the medulla, and if, either from its own feebleness or owing to some obstruction to its farther progress onward, it does not reach the higher brain-centres, it may be reflected across to a motor fibre, and a motor impulse, which is purely involuntary or reflex in its character, result. But, on the contrary, to have a voluntary action, it is necessary that the track to the brain proper be open, and that there be sufficient impulse to rouse the brain to perceive the impression which is registered upon the medulla.

When I stick the pin in this man's eye, although sensation and sight are lost, yet he winks, which is a proof that there must be damage to this man's higher centres which precludes him from perceiving the sensation, while the centres of the trigeminal nerve are preserved. Further, if the clot was in the mesocephalon, it would affect some one and not all of the centres of special sense.

Now, where is this clot situated?

You know that above the pons are two white bands of nerve-fibres, the crura cerebri, which are the conductive means from the lower to the higher brain. Soon after their divergence each crus contains within it a small mass, called the locus niger, which separates it into the anterior and posterior portions. Farther on in its onward course it passes through two masses of ganglionic tissue, the optic thalamus and the corpus striatum.

Autopsies have shown that the formation of a clot involving the posterior portion of the crus below the optic thalamus is always followed by the symptoms of hemianæsthesia, such as are present in the case before us, as the fibres which pass from the mesocephalon to the cortical centres of conscious perception travel along this part of the crus.

It is a matter of scientific interest to know where these fibres go and where these cerebral centres are; but the almost complete impossibility of tracing these minute and numerous anatomical structures makes us accept the results of all such endeavors with reserve.

Meynert claimed to have traced them into the occipital lobes. Ferrier has found much reason for believing that the perceptive centres in the monkey are situated in the occipital lobe. In man, however, this is rendered doubtful by the fact that we may have complete loss of the entire lobe with loss of sensibility.

I saw, however, a case last March which seemed in a measure to sustain the views of Prof. Meynert. The following is an abstract from my case-book. A woman, aged 54, who had usually enjoyed good health, was taken with the general symptoms of Bright's disease, confirmed by examination of the urine, together with a peculiar paroxysmal headache confined to the anterior part of the head, marked difficulty of finding words, and failure of memory.

There was also some slight drawing of the face to one side and slight paresis of the left arm. From this time forward the symptoms grew steadily worse, the loss of memory becoming very prominent, and the aphasia increasing until nearly complete.

The palsy of the right side varied much from week to week, gradually increasing, but never becoming total.

Between two and three weeks before death the sense of smell and taste disappeared, and there was marked mental failure and apathy, but the patient knew everybody, and the sense of sight remained, seemingly, good.

The loss of the senses of smell and taste distinctly preceded by a considerable interval the coming on of stupor: how far the loss of taste was dependent upon the loss of smell was not distinctly made out, owing to the aphasia and lack of intelligence.

At the autopsy the kidneys and spleen were in an advanced state of atrophy, the brain, external surface and membranes, seemingly normal, except in the left island of Reil, where it was much softened, with microscopic evidence of an old clot in it. In the right hemisphere, in the posterior lobe a gliomatous tumor was found the size of a pigeon's egg, which caused great bulging into the ventricle, and the whole lobe, in the interior, was in an advanced stage of yellow softening, with frequent small hemorrhages.

I remember also a case which occurred many years ago in the wards of this house, in which, after death, the whole posterior cerebral lobe was destroyed by an abscess, and in which, during life, no loss of sensation or of the special senses was detected. I suspect, however, that in this case, and in very many of the reported cases of occipital disease, loss of sense was not perceived because it was not properly looked for. Coming back to the case now before us, the completion of the sensory palsy shows that the clot is not a cortical one, and we must conclude that it is situated in the crus and has been sufficient to destroy both the anterior and the posterior portion of the peduncle.

Let me say, before dismissing the case, that, as we properly understand the term, hemiplegia is a paralysis of the arm and leg of the same side, but not of the muscles of the trunk.

If you will notice this man, you will see that he breathes freely and can use voluntarily the muscles of respiration.

The following reason for this want of paralysis of the trunk-muscles in hemiplegic cases has been brought forward by Broadbent, of England. The legs are accustomed to act independently of each other, as are the arms, but not so with the muscles of respiration; they are used to action together. These centres, which are connected by commissural fibres, are so

accustomed to responding in union that the impulse is sent across and onward, although one centre is really gone.

This theory seems to be supported by these cases, and by the fact that independently-acting muscles become more readily paralyzed than those accustomed to act in unison.

As regards the treatment in this case, of course nothing can be done, the condition being not a disease, but a result.

TRANSLATIONS.

Treatment of Tinea at the Saint-Mandrier Hospital at Toulon.—The Saint-Mandrier Hospital, one of the largest French hospitals, is situated at Toulon, and is under the charge of a well-known physician, Dr. Bérenger-Féraud, who has taken advantage of his opportunities to collect the statistics of tinea as treated in this institution, and publishes the results in the *Bulletin Général de Thérapeutique*, vol. ii., 1880, p. 49.

From 1860 to 1879—that is, in the space of twenty years—five hundred and ninety-three cases of tinea were treated in this hospital, the total number increasing year by year, and the proportion of cases as compared with the total number of cases of every description under treatment also increasing, the latter from .03 to 2.60 per cent. This increase is accounted for, according to Dr. Féraud, by the large number of sailors and others coming from Cochin China, and the increase in consumption of Algerian beef.

Dr. Féraud gives a table of some ten substances employed in the treatment of tinea, with the results obtained in the case of each. Among the substances used with little or no success were calomel, garlic, male fern, ethereal oil, pepo, and eucalyptus. Pomegranate in various forms was employed with varying success. The leaves, fruits, the herbaceous stems, and extract of the cortex were not successful, while the dry stems were more active, curing twenty-five out of thirty-nine cases. The various derivatives of pomegranate, punicene, sulphates of pelletiérine and isopelletiérine, and the tannates of methylpelletiérine and pseudopelletiérine were tried without much success in a number of cases. The most successful of all the remedies used, however, was the tannate of pelletiérine, which cured sixty-one cases out of eighty. Excluding a number of these substances which were simply used experimentally, the total proportion of cases successfully treated was 29 per cent., —a figure which seems small until it is mentioned that no case was considered successfully treated unless the head of the worm came away and was distinctly recognized.

Dr. Féraud has a poor opinion of the *pepo maxima*, which is, as is known, the most popular domestic remedy, and one largely used by the profession. After the most thorough and careful use of this remedy he succeeded in bringing away the head in only 7 or 8 per cent. of the cases.

Treatment of Chronic Ulcers of the Leg.—Courty (*Cbl. f. Chir.*; from *Jour. de Thérap.*, 1880, No. 11) has recently made an addition to the abundant but not fruitful literature of this subject, in which he begins by examining the question, What is the cause of the proverbial stubbornness of these ulcers? Apart from various disease-diatheses, from injuries to the tissues, and the influence of the vertical position, the chief trouble is local. The principal points in treatment are: 1, to excite the formation of healthy granulations; 2, to cause absorption of the swollen and hypertrophied tissues; 3, to prevent too rapid desiccation of the superficial epidermic layers during the process of cicatrization. To attain the first of these objects the author uses alternately rest, and active and passive movements. By rubbing and massage the circulation is aided. By wrapping the limb in cotton, plaster, rubber, etc., an antiseptic atmosphere is gained, and also methodical compression. By means of stimulants, as arsenic, copper, red oxide of mercury, the formation of granulations is favored. By nitrate of silver, aromatics, balsams, opium, etc., rapid cicatrization is effected.

Courty's procedure in leg-ulcers is as follows. First the sore is cleansed by washing with antiseptic solutions, as carbolic acid, salicylate of sodium, thymol, chloral, permanganate of potassium. Then, later, soap or an alkali is used to remove the débris and excess of epidermis. Proceeding then to the stimulation of the granulations, Courty spreads red precipitate ointment (strength of 1–50 to 30) on fenestrated pieces of linen, and then lays

these evenly over the ulcer. Over this cotton compresses are laid in sufficient thickness to absorb all purulent discharge. Over this is placed a slightly compressive rubber bandage. Courty says that patients soon learn to put this bandage on for themselves twice daily, which is advisable. He thinks that the red precipitate ointment, combined with the warmth and moisture, lead to active hyperæmia of the granulations, with absorption of the callous edges of the ulcer. When the granulations begin to grow excessive, and the border of the ulcer has softened down, it is time to begin the attempt at solid cicatrization. Courty thinks that care should be taken at this stage to avoid too rapid drying of the newly-formed epidermic layers, and the consequent puckering or fissuring about the border. Moist warmth he thinks best effects this.

Among the means used to favor cicatrization, Courty recommends an aromatic wine, containing occasionally some salt of copper or arsenic. Transplantation also, according to Courty, is advantageous when there is an extensive granulating surface. When the aromatic wine cannot be employed, nitrate of silver may be used, or, if this is too strong, Sydenham's laudanum. Frequently the application of the aromatic wine is followed by dressing with an ointment containing one part tinct. opii to ten parts simple cerate. This opium ointment is almost invariably employed together with compresses to finish up the cicatrization.

ANTISEPTIC PREPARATIONS. — M. J. Lucas Championnière gives the following formulæ (*Jour. des Sci. Méd. de Louvain*, 1880, p. 345):

Aqueous Solutions of Carbolic Acid.—For hospital use it is a good plan to color the stronger solutions red, so that attendants shall not mistake one for another.

	Stronger solution.	Weaker solution.
℞ Crystallized carbolic acid,	ʒxiij;	ʒviiss.
Alcohol,	ʒxiij;	ʒviiss.
Water,	Oij;	Oj.

Carbolized Oil and Glycerin.—

No. 1.—For oiling catheters, speculums, etc.:

℞ Crystallized carbolic acid, ℈iv;
Olive oil, ʒijss.

No. 2.—For dressings:

℞ Crystallized carbolic acid, ℈viij;
Olive oil, ʒijss.

Chloride of Zinc.—The most convenient solution for disinfecting purposes is one of eight parts to the hundred of water. This solution is strongly caustic, and leaves a white pellicle on any wounds which it may touch, with a thin cicatrix, which does not prevent primitive reunion. This solution is called for in wounds which have been or must necessarily be exposed. It is also to be recommended in certain cases of cold abscess where the cavity is organized. It is especially useful, however, in cases where carbolic acid poisoning is to be feared. The solution should then be of the strength of one to two to the hundred, or weaker.

Catgut.—Carbolized catgut is usually so poorly prepared by manufacturers that the surgeon should make his own. To have a ligature at once solid, distinctly antiseptic, and sufficiently resistant, the following formula should be exactly followed:

℞ Crystallized carbolic acid, ʒv;
Water, ʒss;
Olive oil, ʒijss.

The water is added to the carbolic acid so as to form a sort of emulsion, and this is dissolved in the oil with vigorous agitation. A few bits of stone should be placed in the bottom of the flask containing the solution, so as to prevent the catgut from lying on the bottom. The latter should be unbleached, and should be rolled into coils and placed in the flask, completely covered with the carbolized oil, and allowed to remain there for five or six months.

Silk Ligatures.—When catgut cannot be employed, silk ligatures, as recommended by Lister, may be used. These are prepared by plunging them into melted wax containing thirty grains of carbolic acid to four drachms of wax. The ligatures are then passed between a fold of linen to equalize the distribution of the wax and to remove the excess.

Boracic Acid and its Preparations.—Boracic acid is an excellent antiseptic, according to experimenters. In practice, however, it has not been found so available. Its slight solubility is a drawback to its use. However, it has the advantage of being non-poisonous, and may be used in certain localities when the other antiseptics cannot be employed. A saturated solution in the cold contains four parts to the hundred of water. As boiling water takes up one-third of its weight, advantage is taken of this to make boracic lint by dipping absorbent cotton in the solution.

The fine crystals which cover the texture of the cotton are not sharp, and are unirritating.

Pleuritic Effusion — Treatment by Hypodermic Injections of Pilocarpin. —Dr. Haminio Tassi (*Jour. des Sci. Méd.*; from the Italian) found, in a case of pleuritic effusion on the left side, that the greatest relief was given by injections of pilocarpin in the dose of one-third to one-half grain daily, which were well borne. The following symptoms were observed. The pulse increased in frequency a little after the injection, and continued thus for a short time. The temperature likewise increased within about six minutes, continuing so for some twenty minutes. At this time perspiration was established, after which the temperature gradually diminished to a degree somewhat lower than before the injection. Sialorrhœa showed itself a few minutes after the injection, and lasted several hours. There was no hiccough, nor any vomiting; but secretion of tears preceded perspiration, and sometimes lasted about an hour, and was confined to the right eye. Pupillary atresia was observed in only a single case; there was always dilatation; urine was scanty.

Generalized Eruption after the Use of Carbolic Acid Dressings.—H. Zeissl (*Cbl. f. Chir.*, 1880, p. 542; from *Wien. Med. Wochenschr.*) reports a case of erythema urticatum following the employment of Lister's bandage in complicated fracture of the leg, and appearing on the eleventh day of its application. The dermatitis localized itself upon the back, sides, and extremities, displaying a diffuse patchy redness, strewn with isolated urticarious quaddels. The urine was dark green. The eruption faded away when salicylic acid was substituted for carbolic acid.

Inflammatory Disease of the Skin caused by a hitherto undescribed Acarus.—Geber describes an inflammatory skin disease occurring in laborers handling barley. A few minutes after coming in contact with the parasite a sensation of burning and itching is experienced, which is evidently due to the irritating influence of a yellowish-brown powder found on the hands. On microscopic examination, this powder is found to consist almost entirely of living and dead animals. On strewing the powder on the skin of healthy individuals, after a short time urticaria is produced. In more delicate skins, and after longer contact, papules, vesicles, and pustules, with the symptoms of eczema, are produced. Frequently loss of appetite, sleeplessness, and febrile symptoms occur, running over four to six days. In extreme cases more or less generalized dermatitis, with constitutional symptoms, occurs. The parasites are of an oblong-oval shape, yellowish-white color, and .022 centimetre long. They have a round head, with four pairs of feet. They belong to the Acarinæ. Since neither ova, embryos, nor sexually-different animals were observed, Geber thinks the parasite as found on barley occupies an intermediate stage of existence. He thinks the parasite similar to that found on corn and named by Ch. Robin *Chritoptes monunguiculosus*. He believes it to be a commoner cause of inflammation of the skin than is generally supposed.

Paternal Influence in Hereditary Syphilis.—A. Wolff (*Cbl. f. Chir.*, 1880, No. 32), as the result of the study of seventeen personal and twenty-eight other cases, concludes as follows. In every case in which the mother is affected, the child is syphilitic or there occurs abortion. If the father is syphilitic and the mother remains healthy, the children are born healthy and remain so. Wolff denies the paternal infection entirely. He has never seen a child with hereditary syphilis whose mother has not shown more or less decided symptoms of the disease or has not at least given a history of infection.

Ricord's *choc en retour* and Von Bärensprung's infection in procreation lack foundation in facts, as also does the theory of late hereditary syphilis resulting from paternal infection, which is entirely unproved.

Double Fracture of the Inferior Maxilla — Treatment by the Elastic Bandage.—Thibierge (*Cbl. f. Chir.*, 1880, p. 591; from *Gaz. Méd. de Paris*), after replacing the broken bones, fastened them in place by an elastic bandage. A cure was obtained, without necrosis or deformity, in a month.

Alkalies in the Treatment of Sterility.—Professor Pajot, in a note to the *Bull. Gén. de Thérap.* (vol. i., 1880, p. 543), alludes to the statement made in a former number of that journal regarding the influence exercised by an acid condition of the vaginal secretions in preventing conception, and says he has used injections of Vichy water for many years in these cases.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, OCTOBER 23, 1880.

LEADING ARTICLES.

THE PRODUCTION OF DIPHTHERIA IN THE LOWER ANIMALS.

DRS. H. C. WOOD and H. F. Formad have made a report to the National Board of a research made upon this subject. It is well known that pseudo-membranous affections occur in the lower animals offering symptoms similar to those of diphtheria in man, but it is not certain that these pseudo-membranous affections in the lower animals are the same as the human disorder.

Drs. Wood and Formad first attempted to create such affections by inoculating animals with membrane taken from persons sick with diphtheria. The poison was put in little pockets made with a lancet under the skin, or inoculated by scarification in the mucous membrane of the mouth: in many instances both methods were simultaneously practised. Thirty-two experiments were made, with six deaths. In no case was anything like diphtheria caused, except that in one experiment there was an indication of exudation upon the trachea, which, whilst it may have been due simply to a catarrhal inflammation, presents some of the characteristics of false membrane.

It has been asserted by Oertel that animals which have been inoculated with diphtheritic material die with their internal organs infested with micrococci, and that the presence of these is characteristic of diphtheria. Drs. Wood and Formad examined the internal organs of the rabbits which died, as well as the blood of those which survived, and found no micrococci, in this agreeing with Curtis and Satterthwaite.

In the post-mortem examinations in every case the internal organs were tubercular, and in many cases intensely so; tubercular disease was also found in the organs of rabbits which were killed some days after inoculation. It is therefore a very natural belief that in those cases in which death was long delayed it was due to tuberculosis. It certainly is very possible that when death takes place soon after inoculation it may be the result of a non-specific blood-poisoning, and not of diphtheria. In the experiments of Curtis and Satterthwaite death not rarely occurred in a very brief time; in those of Drs. Wood and Formad it was almost always very long delayed. The difference may have been from their using smaller portions of the diphtheritic material and inoculating less deeply than did the New York savants. In no case did inoculation in the mouth produce either local or general symptoms.

In order to discover whether the diphtheritic exudation acted specifically in the production of tubercle, or whether it merely set up a local inflammation which formed a focus of infection, small masses of innocuous foreign matters were placed under the skin. In five out of nine of these experiments tubercle was found after death. This large proportion apparently demonstrates that a simple local inflammation may, in the rabbit, act as a source of tubercular infection. When diphtheritic matter was inoculated, inflammation was almost always induced at the seat of the lesion, with the formation of large lumps containing cheesy matter; so that Drs. Wood and Formad reasonably conclude that the tubercles were secondary to these inflammatory foci, and were therefore an indirect, and not a direct, result of the inoculation.

The method by which Trendelenburg asserts that he succeeded in producing diphtheria in rabbits consists in placing the exudation matter in the trachea. In four experiments our investigators obtained once Trendelenburg's results; in numerous instances they proved that ammonia is able to produce in the cat and dog, as well as in the rabbit, a pseudo-membranous trachitis. Professor Oertel states that the membrane produced by cauterization of the trachea differs from diphtheritic membrane in containing no bacteria. In the recent research, when the death occurred very quickly, bacteria and micrococci were less abundant in the traumatic membrane than in that taken from the throat of patients, but when the animal survived some days, and the bacteria had sufficient time to develop themselves,—when, in other words, they were afforded as good oppor-

tunity of growth as in the natural disease,—they were immensely abundant, in some cases seeming to make up a large part of the bulk of the membrane.

If it be possible to produce a fatal pseudo-membranous trachitis by placing the diphtheritic membrane in the trachea, and possible to cause septicæmia by inoculating other portions of the body with the same material, it would appear as though diphtheria might be originally a local disease with a subsequent septic poisoning; and ten experiments were made to determine whether any products of disease other than diphtheritic exudations are capable of causing pseudo-membranous trachitis.

In two of these experiments pseudo-membranous trachitis was caused by the introduction of organic matter into the trachea. In both of the cases in which false membrane was produced the injected material was pus, and it will be noticed that only four such experiments were made; so that the proportion of successful results was very large,—much larger, indeed, than with true diphtheritic exudation.

Trendelenburg found that not only ammonia but also various other chemical irritants are capable of causing the formation of false membrane in the trachea; many years since it was proven that tincture of cantharides will do the same thing. It would seem, therefore, that in the trachea the formation of a pseudo-membrane is not the result of any peculiar or specific process, but simply of an intense inflammation,—an inflammation which may be produced by any irritant of sufficient power. This fact, certainly, is very suggestive in regard to the pathology of diphtheria.

It is certain that, as in the lower animals, so also in man, chemical irritants will produce a pseudo-membranous trachitis; we are also well assured that there is no anatomical difference which can be detected with the microscope between the lesions of true croup and of diphtheritic angina. A difference has been believed by some pathologists to exist between the two diseases, in that in croup the membrane separates easily, in diphtheria with great difficulty, from the mucous membrane. This seems to arise from a misunderstanding. The mucous membrane of the fauces and mouth has a squamous, not easily-detached epithelium, and consequently membrane connected with or springing from such surface is firmly adherent. The epithelium of the trachea is columnar, ciliated, and detaches with the utmost facility even in the normal condition of the organ; hence membrane attached to it separates readily. The membrane of diphtheritic trachitis is always readily detached in the line of the epithelium. The preparations of Drs. Wood and Formad show that the exudation of the croupous inflammation excited artificially in the trachea is not merely superficial, but also extends below the basement membrane. Some of the best clinical authorities of the day teach that there is no essential clinical difference between true croup and diphtheria, cases commencing apparently as local sthenic inflammation and ending as the typical adynamic systemic poisoning. Every practitioner must have seen cases of angina in which he was in doubt whether to call the affection diphtheria or not: the very frequent diagnosis of "diphtheritic sore-throat" is a strong evidence of this. There have been cases in which diphtheritic matters absorbed by a wound have produced symptoms very closely resembling those of ordinary septic blood-poisoning from post-mortem wounds, etc.; there have been cases of the formation of false membrane about wounds, etc., without any known exposure to a specific diphtheritic poisoning, indicating that the systemic tendency to this peculiar form of exudation is capable of being engendered by other than the specific poison of diphtheria; finally, diphtheria seems sometimes to be produced by exposure to cold.

A general view of these facts seems to indicate that the contagious material of diphtheria is really of the nature of a septic poison, which is also locally very irritant to the mucous membrane; so that when brought in contact with the mucous membrane of the mouth and nose it produces an intense inflammation without absorption—*i.e.*, by a local action. Whilst absorption is not necessary for the production of the angina, it is very possible that the poison may act locally after absorption by being carried in the blood to the mucous membrane. Further, under this theory it is possible that the poison of diphtheria may cause an angina which shall remain a purely local disorder, no absorption occurring; or a simply local trachitis produced by exposure to cold, or some other non-specific cause, may produce the septic mate-

rial whose absorption shall cause blood-poisoning, the case ending as one of adynamic diphtheria.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

A CONVERSATIONAL meeting was held at the Hall of the College of Physicians, Philadelphia, September 22, 1880, Dr. Albert H. Smith, President of the Society, in the chair, when Dr. H. Leffmann read a paper entitled "A Preliminary Note upon Poisonous Dye-Stuffs" (see page 46), which received a vote of thanks.

CRUSH OF NASAL BONES, WITH EXPEDIENT FOR OBVIATING DEFORMITY.

Dr. Charles B. Nancrede reported a case of compound comminuted fracture of the nasal bones and nasal process of the superior maxillary bones caused by the kick of a mule, in which he had resorted to the expedient first suggested by Erskine Mason, of New York, for the purpose of supporting the bridge of the nose until union took place. The accident occurred about seven weeks ago to a patient admitted into the Episcopal Hospital of this city. Finding the parts crushed and shapeless, he had passed an acupressure-pin across through the root of the nose, and held the bones in position with adhesive plaster, with cold-water applications. No grave complications presented themselves, and in the course of a week he removed the pin, and was much gratified to find a good result, which he was certain could not have been obtained by any other means, for the articulating process of the frontal was fractured, and probably the perpendicular plate of the ethmoid as well.

CEREBRAL APOPLEXY.

Dr. Charles K. Mills reported a case of cerebral hemorrhage into the basal ganglia (see page 41).

Dr. C. B. Nancrede inquired if the lecturer laid any stress, in the diagnosis, upon the flexion of the middle finger of the patient's hand.

Dr. Mills said that he had observed this point particularly because it might be of service in localizing a lesion of the cerebral cortex. According to the observations of Fritsch and Hitzig, and those of Ferrier, the centre for the right upper extremity is located behind the fissure of Rolando, in the fourth and fifth descending parietal convolutions. Irritation of this point, in the investigations of Ferrier, caused flexion of the fingers. In the case reported, the blood was exuded just below this region. He did not say that this was the explanation, for pressure upon the basal ganglia might have caused it. If this symptom, however, had remained isolated, he would have believed that it pointed to a cortical lesion.

Dr. Nancrede said that the local contraction must have been caused by the action of the interossei muscles, which extend the first phalanx and flex the second and third. He also asked if such a large effusion was not unusual, and whether or not the convolutions showed unusual pressure.

Dr. Mills said that the ventricles were enormously dilated, and the entire brain pressed upward; the convolutions were flattened; the vessels were much congested, and during the examination seventeen ounces of blood escaped. He had seen only one other case in which the hemorrhage had proved as extensive. The vessels also showed evidence of miliary aneurism, and one specimen taken from the base showed a rupture of its coats; there were also small spots of dilatation and points of degeneration. In regard to the muscular contractions in the fingers, as they existed on both sides, they were probably of central origin.

Dr. Packard asked whether hemorrhages upon the surface of the brain would cause a local rise in the temperature.

Dr. Mills replied that he had not taken any surface-temperature observations in this case; but in other cases he had undoubtedly found a rise under similar circumstances, and believed that this might be of service in localizing the clot.

CASE OF FOREIGN BODY IN THE URETHRA AND BLADDER REQUIRING PERINEAL SECTION.

Dr. Charles B. Nancrede reported a case of unusual interest, occurring in the wards of the Episcopal Hospital, of a patient who was admitted with a supposed medical ailment. On the second day after admission the speaker's attention was called to the case. He found him passing very little urine. Upon examination, an ordinary pen-holder was found lying in the urethra, partly in the bladder and partly in the spongy urethra, the end being discernible to the touch in the perineum. The size was about No. 25 French scale. It was found to be impracticable to withdraw the foreign body by the ordinary forceps through the meatus, and perineal section was resorted to. With the exception of some cystitis, the man did well after the operation; no fistula resulted. The section was made in the median line, through the bulbous portion of the urethra. No severe hemorrhage occurred.

Dr. Schapringer suggested the introduction of a large catheter to envelop the foreign body.

Dr. Packard said that a mechanical difficulty existed to prevent the plan just pro-

posed. The difficulty was in the long, straight extremity of the pen-holder; the force of the friction of the catheter would not be sufficient to maintain its hold, even if it could be coaxed over it as suggested. He inquired whether it would not have been a simpler plan to perform the ordinary lateral lithotomy operation, and cut the stick in half and withdraw it in section.

Dr. Nancrede said that the operation performed had occurred to him as being the most appropriate. The hemorrhage was readily controlled by hot-water applications.

THE USE OF CHLORATE OF POTASSIUM IN FURUNCULAR AND CARBUNCULAR AFFECTIONS.

Dr. J. V. Shoemaker reported remarkable success from the use of chlorate of potassium, given in large doses, in scrofulous skin diseases and in furuncular and carbuncular affections. He had lately been invited to see a case in the practice of Dr. Boardman Reed at Atlantic City. It appeared that the use of large doses of this salt had decidedly reduced the amount of suppuration in the case named; and in other cases he had had equally satisfactory results.

Dr. Reed, being present, was invited by the President to give the details of the case.

Dr. Boardman Reed said that the patient was a young girl who had two carbuncles, one upon the back of the neck and the other in front of the ear; they afterwards extended downward until the affected area was about five inches in extent. The patient was very weak; she became feverish, and the pulse was rapid and feeble. Very little hopes of her recovery were entertained until the chlorate of potassium was used in decided doses (gr. iii every three hours), in conjunction with iron and supporting diet, when she rallied and subsequently became quite well.

Dr. Frank Woodbury said that he would regret very much if the impression were gathered from the case just mentioned, or from remarks that had been made before the Society, that potassium chlorate is an entirely harmless remedy, as it has caused death in a number of reported cases. The symptoms of poisoning are by gastro-intestinal irritation, and as small an amount as half an ounce has proved fatal. Like all the other potash salts, the chlorate possesses high diffusive power, and readily enters the blood, to which it gives a bright-red hue. This is not due, however, to its yielding any of its oxygen to the red-blood cells, because it is a very stable salt and requires a red heat before it is decomposed. It is eliminated in its own form, appearing in nearly all the secretions. Being only slightly soluble in water, it is deposited very frequently in the pelves of the kidneys; and in cases such as diphtheria, where the renal organs are already affected, or in chronic Bright's disease, such obstruction might prove of serious import in an already damaged kidney. The speaker, after listening to Dr. Drysdale's paper upon "Chlorate of Potassium in Croup," read before the Society about two years ago, had used it as recommended in comparatively large doses, and had seen several infants profoundly impressed by it, and even threatened with collapse, having a pallid face, a cool skin, feeble respiration, fluttering pulse, and complete muscular prostration, from which they recovered only after the withdrawal of the remedy and the application of heat and stimulants. Several articles had appeared in the medical journals lately, calling particular attention to this danger from chlorate of potassium. He wished to emphasize the fact that there is no evidence whatever that when given internally it yields any oxygen to the blood, as has been asserted; nor is it a stimulant to the circulation; on the contrary, it is capable of causing profound general depression, and is a paralyzer of the heart. In large doses it is a gastro-intestinal irritant, while after absorption the danger of blocking the kidneys mechanically with crystals of the salt, precipitated from concentrated urine, should not be forgotten.

Dr. Shoemaker said that Dr. Alexander Harkin, of Edinburgh, had reported a few years ago a number of cases of scrofula and tuberculosis in which this remedy had produced excellent results. He had himself been using it for four or five years, and had never seen any fatal result. He gives it in one-half to two-grain doses in children, and about ten grains in adults, especially in weak and anæmic cases. Children will fatten under its use, and the anæmia will gradually disappear. In the majority of instances he had given it simply dissolved in water, without combining it with any other remedy. He had made post-mortem examinations of cases who had taken this remedy, but had never seen it deposited in the tissues.

Dr. Henry K. Leffmann said that the possibility of a mechanical action should be borne in mind, as the crystals are sharp and not very soluble,—something like the sulphate of potassium used in Dover's powder. He had been surprised that the chlorate of sodium had not been substituted for the potassium salt, on account of its greater solubility.

Dr. J. Solis Cohen said that he had given chlorate of potassium a great deal for the last twenty years. In diphtheria there is a tendency to kidney disease, and the possibility of giving rise to trouble should be remembered. The gentleman referred to by Dr. Shoemaker as recommending this remedy for scrofula seems to use it in the majority of diseases; it appears to be a hobby with him. He gives it simply in solution (one ounce of the chlorate to one pint of water), and also uses it to apply externally to burns, etc. His idea is that it breaks up in the system and yields oxygen. It is worthy of note that the sub-

stances found useful in diphtheria are generally chlorine compounds.

Dr. Leffmann said that, without discussing its therapeutic effects, he wished to observe that we cannot introduce an oxidizing agent into the blood without at the same time producing a corrosive effect. This does not occur from potassium chlorate.

Dr. Shoemaker said that the original paper by Dr. Harkin which he had referred to was very favorably received by the Society before which it was read, and elicited a very interesting discussion.

Dr. Parish said that there is one objection to the use of this remedy in young children, and that is its local irritant action upon the stomach. He had formerly used the chlorate in saturated solution and also in powders, and had frequently noticed that the children were restless after taking it, and in several cases there was vomiting. For its local effects upon the fauces he still continues to use it, but apart from this he had not been able to notice any particularly good effects from this remedy.

Dr. Laurence Turnbull said that he had had considerable experience with this salt, especially since Dr. Drysdale's paper was read. He recalled a case of diphtheria that he had been called to see, where a solution of chlorate of potassium was given in solution (a teaspoonful to a tumblerful of water) almost *ad libitum*. In the afternoon the child became worse; the skin became blue, the kidneys were irritable, there was a strong desire to pass water frequently, and strangury. The child passed into a coma and died. He was satisfied that the large doses of chlorate of potassium had an unfavorable influence upon the patient, and he resolved to give it more cautiously and only in small doses. It is a valuable remedy in aphthous sore mouth and sore throat, especially syphilitic sore throat, and care should be taken to have a perfect solution.

Dr. Atkinson said that he had always recommended chlorate of potassium and tincture of chloride of iron in diphtheria in decided doses, though not in a saturated solution. He had followed this in his practice, and had never seen any bad results.

Dr. Shoemaker said that during an attack of diphtheria, from which he suffered last winter, there had been great irritability of the stomach, and the only thing that he could retain or that gave him any relief was chlorate of potassium. He used it very frequently at his Dispensary for Skin Diseases with good results, beginning with small doses and gradually increasing them. He had taken himself from three to five grains quite frequently.

Dr. Wittig recommended the combination with iron and tonics. He had read that the chlorate might be used as an antiphlogistic agent standing between nitrate of potassium and chloride of ammonium.

JAMAICA DOGWOOD IN NEURALGIA.

Dr. Cohen inquired whether any member had any experience in the use of Jamaica dogwood in neuralgia, which had lately been recommended as a substitute for opium. It is said to have a powerful effect upon fishes. It is a powerful anodyne, relaxing the system, producing salivation and sweating, and does not cause constipation. He had employed it in one case, when the result was doubtful.

Dr. Boardman Reed, by invitation, said that he had used the remedy in two cases of neuralgia of the face which had been suffering for years and had taken opium, morphia, and all the usual remedies. They both had great relief from teaspoonful doses repeated every three hours: one required two doses, the other five or six. In the latter case nausea was experienced after several doses had been taken.

MEDICATED COTTON.

Dr. Laurence Turnbull said that he had formerly found much difficulty in applying iodoform in ear diseases either in substance or in solution in alcohol and glycerin, but this had been recently obviated by a preparation recommended by Dr. Woakes, of London, absorbent cotton being impregnated with a solution of iodoform and dried. This agent is very valuable in affections of the nose and ears attended by chronic discharges. It may also be obtained containing astringents, Monsel's salt, boracic acid, and in other useful combinations, at our leading drug-stores.

F. W.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, SEPTEMBER 23, 1880.

The PRESIDENT, DR. S. W. GROSS, in the Chair.

The etiology of fractures of the cranial base, and the anatomico-pathological reasons for their fatality.

DR. C. B. NANCREDE read a paper with the above title (see page 33).

Dr. H. LENOX HODGE said that the paper presented by Dr. Nancrede was able, original, and instructive. Many of the conclusions would meet the hearty approval of all. He regretted that Dr. Nancrede had not completed his paper by performing and reporting a series of experiments upon the cadaver. The number of post-mortem examinations that can be obtained after fractures of the base of the skull is necessarily limited. The various forms of injury that produce fractures at the base of the skull can be readily repeated on the cadaver. The effects of blows, of falls, and of gun-shot injuries can thus be easily studied.

Clinical observations and experiments have brought out many points of interest. Injuries

to the forehead are followed by fractures of the anterior fossæ, injuries of the temporal regions by fractures of the middle fossæ, and injuries to the occiput by fractures of the occipital fossæ. A fracture at the base of the skull is almost always accompanied by a fissure in the corresponding portion of the vault. The result of a blow or a fall on the head is due not only to the effects produced at the point of impaction, but also to those at the point of resistance. The cause of death after these injuries is due frequently to the direct effect of the vibrations upon the brain itself at the time of the injury, rather than to any secondary effects produced on it by the fracture of the skull.

Dr. SEILER said that he understood Dr. Nancrede to say that the injuries at the base of the skull were due to vibrations excited by the blow or fall upon the cranium, which were transmitted along the best conductor of vibrations, the thicker portions, to the base of the skull, where, by the meeting of different sets of vibrations coming over different routes, they were so augmented as to break the bone. He would like to call attention to the fact that this was an error of pathology, as the thicker portions of the bone were not better conductors of the vibrations than the rest of the base, but that they were capable of transmitting vibrations of greater amplitude. The conductivity of a substance for vibrations depended upon the proper relation of elasticity to density, and he cited as an example rubber, in which the elasticity is much greater than the density, and it is therefore a bad conductor of vibrations.

Dr. Seiler said that in regard to the second point there might be cases in which the vibrations might be anticipated by meeting instead of their amplitude being augmented, and this took place, as he showed by a diagram on the blackboard, where the depression of one wave fell together with the elevation of another one coming from a different direction.

Dr. CHARLES K. MILLS thought that in considering cranial fractures and concussion, and their consequences, the author of the paper should not have overlooked the investigations of Duret on Cerebral Traumatism. This distinguished cerebral physiologist has published the results of an elaborate experimental research and clinical study, under the title of "Experimental and Clinical Studies upon Cerebral Traumatism" (Paris, *Le Progrès Medical*, and A. Delahaye, 1878). The *American Journal of the Medical Sciences* for January, 1879, contains an able review of Duret's work. The cranium is a closed cavity with elastic walls. The elasticity of the skull can be readily proved. Duret mentions an experiment of Félizet, who filled a skull with melted paraffine, cooled it, and let it fall from a height of two and a half feet. The paraffine at the point corresponding to the blow showed a flat surface which indicated a depression of the skull of one-third of an inch. Not only is the skull elastic, but its contents are practically incompressible. A sudden blow on the cranium will therefore be transmitted to all parts within. A strong cask filled with a liquid may be burst by striking on the bung, or by pouring a few ounces of liquid into a long, vertical tube communicating with the interior of the liquid. Experiments of this kind are familiar both to practical men and to school-boys. Liquids transmit pressure equally in all directions, but, the contents of the cranium not being homogeneous, the effects of a blow upon the outside of the skull will be exerted from within outward upon certain regions of the brain and skull more strongly than upon others. The consequences both upon the brain and upon the skull are likely to be more disastrous when a blow or a fall is upon the top than when it is received upon the side of the head. Duret's explanation of this fact is that when the impact is in the transverse axis of the cranium a *cône de soulèvement*, or elevation of the skull, takes place at a point immediately opposite to the *cône de dépression* produced at the point of impact, and in this way the effect of the blow is diminished. When the blow or fall is received on the vertex, this saving cone of elevation cannot be formed, because the region opposite rests upon the spine and will not yield, and because also, perhaps, the structure and shape of the cranial base are such as largely to prevent such a result.

In cases of fracture at the base or at any other part of the skull, fatal effects or serious results, such as fever, paralysis, or convulsions, are not always, and perhaps not usually, due to inflammation set up about the seat of fracture. The researches of Duret here again afford us a satisfactory explanation of phenomena which would otherwise be inexplicable. A blow or a fall sufficient to produce a fracture of the floor of the skull would be more than sufficient to cause the lesions and symptoms, either primary or secondary, which Duret studied under the head of cerebro-spinal shock. By blows upon the head and by injecting liquids within the skull lesions were produced in almost every portion of the brain. Some of these were the following: direct laceration and hemorrhages of the meninges; hemorrhages at various points at the base of the brain; extravasations of blood within the fourth ventricle; tearing of the foramen of Magendie; splitting of the floor of the ventricle; interstitial hemorrhages in the substance of the pons and medulla oblongata; hemorrhagic lesions even in the spinal cord. The symptoms produced by cerebro-spinal shock are, in very broad terms, changes in respiration, circulation, and intelligence, and spasm, tremor, paresis, or paralysis of certain muscles.

In regard to the spasmodic symptoms, in particular, which follow injuries to the base

of the cranium or to other portions of the skull, Dr. Mills believed that at least three explanations might be given of their production: (1) direct irritation of the dura mater by spiculæ of bone, by clots, by spreading inflammation, etc.; (2) direct irritation by similar means of the cortical motor centres; (3) irritation from the effects of cerebro-spinal shock of the centres of the bulbo-pontine region Numerous experiments by Duret have shown that the dura mater contains sensory nerves, readily excited, irritation of which gives rise to reflex spasms or contractures. The irritation is conveyed by these sensory nerves to the motor centres of the pons and medulla oblongata. Local irritation of the cortical motor centres may be caused by meningeal hemorrhages, by friction, and in other ways. By irritation from the effects of the cerebro-spinal shock he meant the rents, extravasations, and secondary inflammations of the convulsive zone of the floor of the fourth ventricle.

Dr. Mills also called attention to the analogy between the consequences of apoplectic shock and those of shock from blows and falls upon the head. In cases of hemorrhagic apoplexy the brain is struck a blow from within, instead of from the outside as in traumatisms. In sudden and extensive hemorrhages, displacement of the cerebro-spinal fluid sometimes takes place. He had recently reported to the Philadelphia County Medical Society a case of hemorrhage in the basal ganglia, followed by effusion of blood into the ventricles, in which the upper part of the floor of the fourth ventricle was found to be split to a slight depth in the median line. He thought it probable that at the time of the apoplectic stroke the cerebro-spinal fluid had been suddenly forced through the aqueduct of Sylvius, and that the walls of the fourth ventricle had been subjected to an outward pressure sufficient to cause a partial rupture. In such cases of apoplexy, besides the direct destruction caused by the effused and spreading blood, lesions similar to those seen after great external violence are usually present. These are small hemorrhages into and beneath the meninges, hemorrhagic spots in the pons, medulla oblongata and cord, etc. Many of the symptoms, immediate and remote, of apoplexy are the same as those of cerebral concussion or sudden cerebral compression.

In closing the debate, Dr. NANCREDE, replying to Dr. Hodge, said that he could only again apologize for the many shortcomings of his paper, no one being more aware of them than himself. Unfortunately, however, owing to the absolute impossibility of giving more time to its preparation, the experiments that Dr. Hodge referred to had to be omitted. Dr. Hodge would bear him out in the statement that he had applied to him for some heads to experiment upon, but that time was wanting. He differed from him, however, as to the ease with which fractures could be produced. It is, indeed, a simple matter to cause an extensive fracture of the skull, implicating the base, but very difficult to produce one involving the base alone, as shown by the specimens and the case related, and which Dr. Nancrede contended gives the key to the causation of the more extensive injuries.

With regard to Dr. Seiler's strictures as to the correctness of the term "conductors of vibrations," he acknowledged their propriety, and would, by his leave, correct it when publishing the paper. Dr. Seiler should recall the fact, however, that Dr. Nancrede in one part of his paper had termed the thickened ridges of bones "reinforcers" of the vibrations. As to the fact that the vibrations might meet and neutralize one another, he had thought that to be so self-evident as to require no statement regarding it. He would append a foot-note which would prevent others from being led astray by this omission.

Finally, as to Dr. Mills's criticisms, he must again say that his paper necessarily was limited to the consideration of certain points only. Perhaps a better title would have been "Some Hints as to the Etiology of Basal Fractures," rather than "The Etiology." He could not, however, agree with Dr. Mills as to the explanation of the slight cases which he had distinctly stated formed the text for his paper. He acknowledged the truth of most of Dr. Mills's remarks, but still thought that the cases described were better explained by his own paper. Dr. Mills made no sufficient allowance for the displacement of cerebro-spinal fluid. Again, experiments do not explain the fact that the bony lesions do *not occur* exactly opposite the point struck, as the "cones theory" would imply, but at certain definite portions of the cranial base, to a marked extent irrespective (with certain limitations) of the point struck. Dr. Nancrede had, it would be remembered, not denied injury to the brain opposite to the point of impact. The cause of death, in the cases cited, did not seem to him due to the cerebro-spinal shock and its consequences, there being no evidences of active disease gradually supervening from the traumatisms *until normal vibrations had been excited in the cranial walls which failed to be conducted to their normal points for arrest, and in consequence irritated the brain and its envelopes.*

Again, Dr. Mills failed to appreciate the fact that when a fracture results the vibrations are chiefly, if not entirely, confined to the bone itself, it being a well-known fact that the more extensive splinterings of the vault, for instance, are often accompanied with but few evidences of injury and irritation of the subjacent brain: so that the constant contusion of certain portions of the base of the brain which are not necessarily opposite to the point struck, but correspond to the fracture, supports the views taught in the paper.

GLEANINGS FROM EXCHANGES.

Recent Investigations on the Antagonism of Quinine and Atropin.—According to the *Lancet* (vol. ii., 1880, p. 176), an interesting contribution to the facts relating to the antagonism between the actions of drugs has been supplied by Panteljeff with regard to two drugs in common use,—quinine and atropin. The salts employed were the chloride of quinine and the sulphate of atropin, and the experiments were made upon dogs, rabbits, and frogs. An injection of quinine beneath the skin of the frog in summer arrests the heart in diastole, but a subsequent subcutaneous injection of atropin causes it to resume at once its pulsations. The appearance of the heart when its action is arrested by the influence of quinine is as if the blood-pressure upon the heart was greater than the cardiac walls could contract upon. If atropin was injected first, so as to cause an acceleration, this was arrested by the quinine. With winter frogs the influence of the quinine was more frequently to cause a gradual retardation in the action of the heart, which was only arrested after a time, with loss of reflex action and death. The injection of atropin did not prevent this, but retarded the heart still more. Microscopic examination of the vessels of the web of the foot showed that the quinine caused a narrowing of the small arteries to one-half their previous calibre, while atropin dilated the vessels. In rabbits it was found that when the heart's action was arrested by quinine, atropin caused it again to beat, and the auricles began to contract before the ventricles. In both dogs and rabbits the blood-pressure in the carotid rose after the injection of quinine, when the pulse was rendered less frequent. It was found that immediately after the injection the blood-pressure suddenly falls, but after a few seconds it rises to a higher degree than before the injection. In small doses the pulse is often accelerated during the increased pressure, but with large doses the pulse is retarded from the beginning. If repeated injections are made, every injection causes, first a sudden fall of pressure, with retardation of the pulse; then the pressure rises, to fall again after a new injection. This initial fall in the blood-pressure is probably due to a sudden contraction of the vessels of the lungs, hindering the passage of the blood into the left ventricle and the aorta. The cardiac contractions become, at the same time, less frequent, but stronger. The arteries of the aortic system then contract and cause an increase in the blood-pressure, and, at the same time, an acceleration of the pulse. Larger doses have a direct influence upon the heart, so that, later, the cardiac action becomes retarded and the blood-pressure falls. The pneumogastrics remain excitable by electricity, but their division exercises no marked influence upon the pulse, especially when the respiration is retarded by the action of quinine. Subsequent injection of atropin accelerates the pulse, even when the pneumogastrics have been divided. In only one observation upon dogs was an arrest of the heart by quinine prevented by atropin. The increase of pressure caused by quinine was disturbed and retarded by the preceding injection of atropin. Direct application to the heart of frogs showed that not only can quinine arrest the action of the heart, but that it can also, under certain circumstances, act as a stimulant to excite it to action, and the effect depends upon the condition in which it is.

A Plea against the Resection of the Ribs in Empyema.—Under this title Dr. Charles A. Leale (*New York Medical Record*, vol. ii., 1880, p. 317) gives several cases in point, and adds the conclusions to which his experience has led him. They are as follows:

He would, as in tracheotomy and abdominal paracentesis, prefer to use the scalpel to open the chest. 1. As a safer procedure, knowing exactly what is being cut. 2. An incised wound is known to heal, if required, with greater certainty. 3. That by using a long, male, silver catheter the most dependent part of the chest can be emptied of its fluid contents, and there is no danger of pricking the lung from change of position or movement of the patient while the liquid is being withdrawn, as noted by Dr. Allbutt. 4. That when pus has commenced to undergo that change preparatory to absorption, the probabilities are that very little, if any, will be produced after the operation if the wound is immediately closed. 5. That in closing the wound under the above circumstances, the little atmospheric air admitted and the small quantity of pus left are very soon absorbed. 6. That if pus again accumulates in the chest, the operation is so easy, the pain so slight, and the closure so rapidly accomplished that a repetition is nothing to be feared, and really causes less prostration than when a large incision is made, and possibly pus found with greater rapidity. 7. That atmospheric air, pus, and blood, even to the extent of about eight ounces, may be absorbed, and that the injured, compressed lung can again resume its normal condition, as is conclusively proved by recorded post-mortem examinations. 8. That when unhealthy decomposition has commenced, the wounds ought to be left open and the part carefully disinfected. 9. That thoracentesis should oftener be performed for the quick removal of fluid from the chest, even, as recorded, during far-advanced phthisis pulmonalis, when relief may be obtained, life prolonged, and painful death averted. The resection of the ribs during the operation of thoracentesis has now been resorted to quite frequently during the past six years in America, Great Britain, France, and Germany,

without adding to the safety of the patient, and in a large number of instances, Dr. Leale firmly believes, has been the means of long procrastinating an apparent recovery, while in others death, it appears, has been the direct result.

FOOD-ADULTERATION.—At the recent meeting of the American Social Science Association (*New York Medical Record*, vol. ii., 1880, p. 331) Professor S. W. Johnson, of Yale College, read a paper on the "Adulterations of Foods, Drugs, and Domestic Articles," the paper being an exhaustive review of the subject. From the long list of adulterations mentioned may be taken the following:

Wheaten flour, with rice, barley, peas, beans, buckwheat, millet, and boiled potatoes; bread, with alum, sulphate of copper; yeast, with alum; baking-powders, with terra alba, such as plaster of Paris, whiting, and kaolin; milk, with sugar, salt, soda and chalk, annotto and turmeric, gum-dextrin, emulsion of hemp-seed, boiled starch, and pulverized brains; cheese, with potatoes, beans, vermilion-red and red chalk, sulphate of copper, arsenic, and corrosive sublimate; lard, with boiled starch, alum, and quicklime; confectionary, with red lead, chromate of lead, and vermilion, Prussian blue, copper, and arsenic; pickles, with sulphuric acid and verdigris; mustard, with wheat flour and turmeric, charlock-seed, cayenne, and ginger; coffee (ground), with wasted acorns, spent tan-bark, spent logwood, mahogany, sawdust, and burnt horse's liver.

In answer, however, to the question, "Are we in the United States liable to suffer in purse and in health from the adulterations that are now practised upon our food?" the answer is a qualified negative. We are not suffering serious loss of goods or of health.

ERGOT-POISONING.—Dr. John M. Keating (*New York Medical Record*, vol. ii., 1880, p. 318) gives the case of a woman recently delivered, to whom, by a misunderstanding, half a drachm of fluid extract of ergot was administered every half-hour until eight doses had been taken, two drachms having been previously given. The entire amount ingested was six drachms within four hours. When seen, the patient's face was of a bluish tint, and she seemed in great pain; the pupils were dilated, the pulse quick, weak, and occasionally irregular; there was no dyspnœa, nausea (no vomiting), buzzing in the ears, and at times a tendency to syncope. The skin was cool and clammy; there were powerful uterine contractions. Dr. Keating loosened the binder, gave her some whisky, and stimulated the circulation by rubbing, and in the space of half an hour the severity of the symptoms had gradually passed away, and the patient was left to sleep off a dose of morphia and bromide of potassium.

SOOTHING OINTMENTS.—In an article on this subject in the *Specialist* (September 1, 1880) Dr. McCall Anderson says,—

One of the most favorite remedies in England is the "Unguentum oxidi zinci benzoatum" of Erasmus Wilson, Bell's formula for which is as follows:

℞ Adipis præparati, ℥v;
Gummi benzoini pulveris, ℥i.

Liquefac, cum leni calore, per horas viginti quatuor, in vaso clauso; dein cola per linteum, et adde

Oxidi zinci purificati, ℥i.

Misce bene, et per linteum exprime.

To this a drachm of rectified spirit, spirit of camphor, or Price's glycerin may sometimes be added with advantage. The benzoin prevents the ointment from becoming rancid and irritating, while at the same time it imparts to it a certain fragrance. It is an excellent preparation, but, owing to the white crust which is apt to form, it is inferior to others when the eruption is situated upon uncovered or upon hairy parts. In such situations the zinc ointment of Dr. L. D. Bulkley, of New York, is preferable: it is composed of pure carbonate of zinc and the ceratum galeni, in the proportion of half a drachm to the ounce.

One of the most valuable of soothing ointments is the "Unguentum diachyli albi" of Hebra, of which the following is the formula:

℞ Olei olivæ, ℥xv;
Lithargyri, ℥iii et ℥vi.

Coque l. a. in ung. moll., dein adde
Ol. lavandulæ, ℥iii.

M Ft. unguentum.

This ointment is likewise unsuitable for hairy parts, on account of its matting the hairs together. More recently several varieties of soothing ointments containing oleic acid have come into use, one of the best of which is the "Unguentum zinci oleatis," recommended by Dr. Crocker, the formula for which is as follows:

℞ Zinci oxidi, ℥i;
Acidi oleici, ℥viii;
Vaselini, ℥ix.

Rub up the oxide of zinc with the oleic acid, and let it stand for two hours; then place in a water-bath until the zinc is dissolved, add the vaseline, and stir until cold. Instead of this Dr. Sawyer has more recently recommended an oleate of lead ointment, which is composed of lead oleate, twenty-four parts; heavy and inodorous paraffine oil, fourteen parts. The lead oleate is prepared by heating a mixture of oleic acid and oxide of lead, one part of the former to eight parts of the latter. It is prepared in the same way as the last ointment, but, in my experience, is inferior to it as a sedative application.

By far the best of all the soothing ointments with which I am acquainted—which was prepared at my suggestion by Messrs. Frazer & Green, chemists, Glasgow, and which is made in the same way as the oleate of zinc ointment—is composed of

℞ Bismuthi oxidi, ℥i;
Acidi oleici, ℥viii;
Ceræ albæ, ℥iii;
Vaselini, ℥ix;
Olei rosæ, ♏v.

I have not only used this ointment with the very best results myself, but those of my professional brethren to whom I have recommended it have professed themselves equally satisfied with it; and one medical man in particular recently informed me that it was the only ointment, of the many which he had tried, which had proved a sedative in his own case.

Instead of merely rubbing soothing ointments upon the inflamed surface, as is so often done, it is always preferable, when at all possible, to apply them spread thickly upon pieces of linen, which should not be too large, else they do not lie evenly upon the inflamed parts.

Boracic Acid in Skin Diseases.—Carbolic acid is doubtless of great value in the treatment of cutaneous affections, but it is a poisonous and irritant substance, especially in the case of young children. Boracic acid is an excellent antiseptic, is non-irritant, non-poisonous, and renders good service in the management of eczema, *e.g.*, in the form of ointment:

℞ Vaselini, ℥i;
Acid. boracic. (impalpable powder), ℈v;
Balsam. Peruvianæ, ℈i.—M.

Or, the boracic acid may first be dissolved in an equal weight of glycerin, and the other ingredients added.

Treatment of Ozæna.—Dr. Wolfrau employed twice a day, for five minutes at a time, aspirations of a solution of tannin and glycerin (two per cent.) preceded by irrigation of the nasal fossæ with one litre of a solution of sea-salt, in the case of a patient who had been affected with a muco-purulent fetid nasal discharge for a year. In a fortnight afterwards he tried a solution of acetate of alumina, at first one-half per cent. and then one per cent. Gradually the nasal secretion became less in quantity and fetidity, the number of irrigations was reduced, and the patient was cured in six weeks.—*Berlin. Klin. Wochenschr.; Specialist*, September 1, 1880.

Treatment of Herpes.—M. A. Fournier (*La France Médicale*) recommends, after washing the ulcerated vesicles of herpes with hypochlorite of soda solution diluted with half its volume of water, that the wound be covered with cotton wool impregnated with the following powder: subnitrate of bismuth, four parts; calomel and oxide of zinc, of each one part. If the eruption is extensive, he recommends absolute rest, the administration of baths with bran or starch, and the internal prescription of opium and bromide of potassium.

Pine-Wool Clothing. — Throughout France and Germany, says the *British Medical Journal*, a considerable reputation has been achieved by the product of the pine-wool fabrics of Remda, in Thuringia. The jerseys, drawers, and underclothing made of this product, woven into warm aromatic undergarments, are much worn, and have a considerable reputation for use as preventives of rheumatic affections, and for protecting the body against sudden changes of temperature in inclement weather.

Simple Method of Reducing Paraphimosis.—M. Bardinet employs the following with success. He inserts the convex ends of three hair-pins, at regular distances apart, beneath the constricting ring, and over the bridge thus formed the foreskin is drawn down with the greatest facility.—*Allg. Med. Cent. Zeit.*

MISCELLANY.

Characteristics of Chian Turpentine.—Prof. Clay contributes to the London *Lancet* the following interesting information regarding this new remedy:

"The pure drug is of such a solid nature that a portion taken between the fingers may be rolled into the form of a pill without adhering to the fingers: thus it is very different from the large number of spurious specimens which have been supplied to the public, and which for the most part have been of a syrupy consistence. The odor of the genuine drug is peculiar. If a portion be softened between the fingers the fragrant odor can be readily perceived, and it is not by any means similar to that of turpentine oil, whilst the spurious kinds smell strongly of the latter substance. The taste of the pure article is characteristic in not being unpleasant. Indeed, it is almost tasteless: I have kept a piece in my mouth for two hours and scarcely knew that it was there. The taste of most of the spurious kinds is very bitter, and so unpleasant that I now rarely adopt the above-mentioned mode of testing the drug. The brittle yet elastic nature of the pure drug is very striking. If a piece is warmed and rolled out, and is allowed to cool, and is then dropped on the floor, it generally breaks into a number of fragments. If a mass is placed in a shallow vessel it usually flattens and spreads over the vessel, the surface being smooth. When the pure drug is placed between two pieces of warmed glass its appearance corresponds exactly with that given in the Pharmacographia. It is best to take a piece of glass, warm it very slightly with a piece of lighted paper, clean it, and then place the drug to be examined upon it; then cover the drug with another piece of glass, and allow both to cool; then by holding the double glass up to the light the characters are readily distinguished. If the drug is spurious, consisting perhaps of strained crude turpentine or Venice turpentine, and so

placed between warm glass, it will present the appearance almost of water. If Chian turpentine is adulterated with Canada balsam, on a gentle heat being applied to the glass on which it has been laid, the Chian turpentine remains in the centre and the balsam flows over the glass, the reason being that the former requires a little stronger heat to liquefy it. If black resin is mixed with Venice turpentine to make the specimens resemble the impurities of the real article, the compound is of a syrupy consistence only, and on heating the mass sufficiently between two glasses the resin is melted, so that the apparent impurities which it presented disappear, while these remain permanent in the genuine drug. Canada balsam, when heated, becomes transparent, and perhaps more so if the heating is repeated, and the smell is of a well-marked sickly odor. If the spurious kind consists largely of resin, and a piece is put on a spatula and a lighted taper applied to it, the characteristic resinous odor is at once obtained.

"The taste, odor, and appearance, then, are the chief characteristics of the drug. If it has a bitter taste, it is not pure; if it has not much taste, as a mixture of resin and Canada balsam, on burning the mass the peculiar odor will reveal its impurity. If the mass does not dissolve in alcohol, but leaves a glutinous residue, then, all other things being equal, it is pure. If it is of a grayish-white or even black color, mixed with impurities, and of a syrupy consistence, it will have a strong smell of turpentine, and is not pure."

MALTINE IN PHTHISIS. By William Porter, A.M., M.D., St. Louis.—There is no complication of chronic disease more common than malnutrition; equally true is it that in such diseases no function demands more attention than the assimilation. After cod-liver oil was urged upon the English profession by Bennett, the proportion of deaths from phthisis to deaths from all causes was lowered from 16 per cent. for five years previous to 1841 to 10.4 per cent. for five years subsequent to 1860. (See Registrar-General's Report.) Dr. C. J. B. Williams (Lumleian Lectures, Lond. College of Physicians, 1862) observes "that the experience of Louis and Laennec gave an average of two years' life in phthisis after it was decidedly developed; but that since cod-liver oil was introduced, he infers from seven thousand cases that the average duration of life has been four years."

Phthisis is pre-eminently a wasting disease, and by exalting failing nutrition, cod-liver oil being little more than a given food, a great advance was made in therapeutics. It has been found, however, that the oil does not in many cases meet the indications; for not only is nourishment needed, but the digestive power is so reduced that but little use is made of the food that is taken. Hence a demand both for nutritious material and for something which will aid food suitable for assimilation. The clinical starting-point in the history of the greater number of cases of phthisis is malnutrition, and when that is guarded against much is accomplished.

After full trial of the different oils, and extract of malt preparations, in both hospital and private practice, I find Maltine most applicable to the largest number of patients, and superior to any remedy of its class. Theoretically we would expect this preparation, which has become PRACTICALLY OFFICINAL, to be of great value in chronic conditions of waste and malnutrition, especially as exemplified in phthisis. Being rich in *diastase*, *albuminoids*, and *phosphates*, according to careful analysis, it aids in digesting farinaceous food, while in itself it is a brain-, nerve-, and muscle-producer.

In practice this hypothesis is sustained. A female patient at St. Luke's Hospital, aged 35, with phthisis, signs of deposit in left upper lobe, losing flesh for six months, poor appetite, and night-sweats, began taking Maltine March 13, 1880. She now weighs one hundred and twenty-one pounds, eats well, has no night-sweats, and the evidences of local disease are much less marked.

Another case of phthisis: A gentleman from Alabama, with all the physical signs of phthisis, rapidly losing health and strength. His was the remarkable gain of ten pounds *from six weeks' use of Maltine.*

Seven pounds' increase in as many weeks is the record of a third patient, a lady of 41 years, who has had no other medication than the Maltine. In these and other cases the increase in strength and mental vigor is in proportion to the gain in weight.

These instances are sufficient for illustration, and are *duplicated many times in the experience of physicians everywhere.* There is a universal reluctance always to testify to results from medicinal preparations, but when, as in this case, the composition is fully known, and the profession invited to investigate the manner of preparing it, there is no reason why the remedy should not receive general approbation, provided it be worthy.—*Quarterly Epitome of Practical Medicine and Surgery, a supplement to Braithwaite's Retrospect.*

THE Chicago *Medical Review* says that "The medical schools of New York, Boston, and Philadelphia which stand aloof from the association of colleges, either by withdrawal from membership or in their failure to place themselves on record as being in harmony with its spirit of advance, occupy a ridiculous position when they impliedly say that the attempt is premature. The difference between these institutions and the Western and Southern members of the College Association is that the latter propose to require of their candidates for graduation not merely the 'evidence,' but three years of genuine study; while the former continue to require two short sessions of lectures, and to dispose of the remainder of the three years by simply re-

quiring 'evidence' of study." It thinks that, in the long run, low-grade schools in the East will scarcely make headway in face of the honest efforts for improvement now made in the West.

HEBRA'S PECULIARITIES.—It is said that, with all his popularity among his pupils and his colleagues, the late Professor Hebra was a thorough despot. He was termed, it is said, the "hospital pasha;" and by his rude language, indecent jokes, and arbitrary bearing he too often excited terror among patients and the more timid of his colleagues. English and American visitors who have been present at some of his clinical lectures have declared that scenes were witnessed and language heard which would not have been tolerated in any other hospital in the world. However, a great teacher he was, and his lectures were delivered in the most classical German.

M. MAURICE KOECHLIN, of Mulhouse, was recently graduated as a bachelor of arts at Rouen, at the age of sixteen years. The remarkable thing in the case is not alone the youth of the graduate, but the fact that he is a deaf-mute, having been born in that condition. His wonderful success, in spite of his great natural disadvantages, has created quite a sensation,

IMPACTED WATERMELON-SEEDS.—Dr. J. H. Stranger writes to the *New York Medical Record*, "On August 3 I removed a pint of watermelon-seeds from the rectum of a patient of mine. He had eaten the melons, seeds and all, and the seeds were so firmly impacted that they had to be removed under chloroform."

TREATMENT OF HYDRARTHROSIS.—Dr. Paquet reports twenty-two cases of hydrarthrosis of the knee-joint, subacute and chronic, treated by immobility and faradization, sixteen of which were cured permanently in from eight to twenty-five days.—*Le Progrès Médical.*

IT will be remembered that some time since Dr. S. P. Chalfant fatally shot Josiah S. Bacon in a quarrel growing out of the dental rubber suits. He has recently been convicted of manslaughter and sentenced to ten years' imprisonment.

ACCORDING to the New York *Medical Record*, registration under the new law has been very general on the part of the profession: two thousand two hundred and fifty is the number for New York City.

DR. WILMS, said to have been the greatest operating surgeon of Germany, and one of the luminaries of scientific and professional Berlin, died recently of blood-poisoning, contracted during an operation.

DR. VERNEUIL, Surgeon to La Pitié Hospital, and Dr. Charcot, Chief Physician of the Salpêtrière, have been made officers of the Legion of Honor.

IT is said that thymol has the property of immediately removing the smell of tobacco.

THE OYSTER.

O mollusk nutritious,
Bivalve delicious,
There's nothing pernicious
In thy succulent dish,
Thou dearly-loved fish!
Heightening our gayeties,
Sweetening asperities,
Softening austerities,
Stomachic, smoothing,
Toothsome and soothing.
However thou'rt galloped,
Stewed, roasted, or scalloped,
Raw, pickled, or fried,
Thou still art the pride
And Queen of the tide!
—*Cincinnati Lancet and Clinic.*

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM OCTOBER 3 *TO OCTOBER* 16, 1880.

HAPPERSETT, J. C. G., MAJOR AND SURGEON.—Assigned to duty as Post-Surgeon at Fort Brown, Texas, to enable Assistant-Surgeon F. Meacham to comply with S. O. 190, c. s., A. G. O., in his case. S. O. 199, Department of Texas, September 29, 1880.

BREWER, J. W., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty at McPherson Barracks, Atlanta, Ga. S. O. 117, Department of the South, October 7, 1880.

LIPPINCOTT, H., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for six months. S. O. 218, A. G. O., October 12, 1880.

POPE, B. F., CAPTAIN AND ASSISTANT-SURGEON.—Having reported at these Headquarters, is assigned to duty at Fort Sully, D. T. S. O. 122, Department of Dakota, October 9, 1880.

DICKSON, J. M., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty as Post-Surgeon at Vancouver Barracks, W. T. S. O. 171, Department of the Columbia, September 24, 1880.

CRONKHITE, H., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty as Post-Surgeon at Camp Sheridan, Neb. S. O. 94, Department of the Platte, October 5, 1880.

HEITZMANN, CHARLES L., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for one month, with permission to apply at Division Headquarters for an extension of one month, and to the Adjutant-General of the army for a further extension of two months. S. O. 170, Department of the Columbia, September 23, 1880. Leave of absence extended one month. S. O. 143, Division of the Pacific and Department of California. September 28, 1880.

WILSON, WILLIAM J., CAPTAIN AND ASSISTANT-SURGEON.—Having reported at these Headquarters, is assigned to duty at Fort Meade, D. T. S. O. 121, Department of Dakota, October 6, 1880.

WEISEL, D., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty as Post-Surgeon at Fort Warren, Mass. S. O. 181, Department of the East, October 8, 1880.

MATTHEWS, W., CAPTAIN AND ASSISTANT-SURGEON.—Having reported at these Headquarters, is assigned to duty at the Cantonment on the Uncompahgre, Col. S. O. 223, Department of the Missouri, October 8, 1880.

SEMIG, B. G., CAPTAIN AND ASSISTANT-SURGEON, Fort Fred. Steele, Wyo T.—Granted leave of absence for one month. S. O. 95, Department of the Platte, October 9, 1880.

PRICE, C. E., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty as Post-Surgeon at Fort Niagara, N.Y. S. O. 175, Department of the East, September 30, 1880.

GRAY, WILLIAM W., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—When relieved by Assistant-Surgeon Dickson, to report to Commanding Officer, Fort Canby, W.T., for duty as Post-Surgeon. S. O. 171, c. s., Department of the Columbia.

GORGAS, W. C., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to duty as Post-Surgeon at Fort McIntosh, Texas, to enable Assistant-Surgeon J. H. T. King to comply with S. O. 190, c. s., A. G. O., in his case. S. O. 199, c. s., Department of Texas.

PHILADELPHIA, NOVEMBER 6, 1880.

ORIGINAL COMMUNICATIONS.

ON WASTING OR "SIMPLE ATROPHY" AS IT OCCURS IN YOUNG CHILDREN FROM INSUFFICIENT NOURISHMENT.

BY LOUIS STARR, M.D.,

Physician to the Episcopal Hospital, and Assistant-Physician to the Children's Hospital, Philadelphia.

CASES illustrating the ill effects of an insufficient supply of food, or of food which, though abundant, is unsuitable in quality, are of frequent occurrence among the out-patients of the Children's Hospital. The condition produced is either one of simple wasting, or of wasting combined with symptoms denoting irritation of the gastro-intestinal canal.

Simple wasting is, I think, most frequently seen in children who have been nursed at the breasts of feeble or overworked mothers, in whom the milk is often both scanty and of poor quality. The symptoms are sufficiently characteristic. There is a gradual loss of plumpness, the muscles grow flaccid, and there seems to be an arrest of growth. The face is pale, the lips pale and thin, the skin harsh and dry or too moist, and the anterior fontanel level or slightly depressed. The temper is usually irritable. When nursed, the child first seizes the nipple ravenously; then, if there is little milk, he quickly drops it, to cry passionately, as if disappointed at not being able to satisfy his hunger; but if the milk is abundant, though thin, he will lie a long time quietly at the breast. The bowels are inclined to constipation. The physical signs connected with the chest and abdomen are negative, and no indication of disease of any special organ of the body can be detected.

Wasting associated with symptoms of gastro-intestinal irritation is more common, and is met with chiefly in infants who are hand-fed. Resulting in the main from an improper diet, it is often encountered where farinaceous food is employed to the exclusion, in great part, of milk; where an infant is allowed or encouraged to bolt bits of table-food and drink tea, and particularly, so far as my experience goes, where the variety of feeding-bottle lately become so popular is used. These bottles have, in place of a plain gum nipple, an arrangement of fine glass and rubber tubing: the glass tubing extending quite to the bottom of the bottle, the necessity of holding the latter and keeping it at a proper angle in feeding is avoided. This seeming advantage is counterbalanced by the minor disadvantage that the child, left to itself, is apt to continue suction long after the bottle is exhausted, and by the great disadvantage that the tubing can never be kept clean. During my last three terms of service at the Children's Hospital it has been my rule to ask for the bottle of every hand-fed infant presented for treatment, and scarcely a day has passed without my seeing several of the bottles referred to. In almost every instance, notwithstanding the most careful and frequent cleansing, the contained milk had a sour odor, and was filled with small curds, while in cases of carelessness the odor was intolerable and the interior of the tubing was encrusted with a layer of altered curd. In bottles provided with a simple nipple, on the contrary, the milk was nearly always perfectly sound and the nipple itself clean.

As there is little difficulty in keeping the bottles themselves clean, there can be only one reason for this difference, namely, in the old-fashioned instrument the nipple is easily removed and as readily inverted and thoroughly cleansed, but in the other there is no way of thoroughly cleaning the twelve or more inches of fine tubing; it cannot be inverted, and the passage of a stream of water or of a small stiff brush can only imperfectly remove the milk clinging to the interior; this, of course, soon undergoes decomposition, and quickly inaugurates change in the next charge of milk placed in the bottle. It is evident that a constant supply of milk thus rendered acid and partially curdled must, like an excess of farinaceous or other unsuitable food, produce irritation of the mucous membrane of the alimentary canal, interfere with the processes of nutrition, and lead to a state in which the features of wasting and disordered digestion are combined.

The following case is a very typical example of this condition:

James ——, æt. 3 weeks, a foster-child, was brought to the dispensary of the Children's

Hospital on April 1, 1879. His nurse stated that he had been in her charge for two weeks, and that he had been sick the whole of this time. The symptoms which arrested her attention were gradual wasting, great restlessness, with frequent, prolonged paroxysms of screaming, and redness and excoriation of the skin in the neighborhood of the genitals and anus. He had been fed upon milk diluted with water, the food being given from a nursing-bottle fitted with the combination of glass and rubber tubing.

At the date of application the child was puny, his surface generally was pale and moist, the muscles were flabby, and there was severe intertrigo of the scrotum, groins, perineum, and inner side of each thigh. His mouth felt hot, the mucous membrane was redder than normal, and the tongue and palate were covered with small patches of thrush. He took his food almost ravenously. There were frequent eructations of sour-smelling, partially-coagulated milk, and the bowels were somewhat constipated. Paroxysms of screaming occurred at short intervals, and greatly disturbed his rest at night; during these paroxysms the legs were drawn upward and moved about uneasily, the feet were very cold, and the abdomen was distended and hard. The heart and lungs were healthy, and the urine was voided freely.

The nursing-bottle was examined. The glass tube which extended to the bottom of the bottle was lined with curd, and a quantity of milk remaining from a supply placed in the bottle about an hour before was sour and contained numerous small curds. This change, it was stated, often occurred, in spite of much care taken to keep the bottle and tubing clean.

Directions were given to substitute a soft india-rubber nipple for the tubing, to keep both the bottle and nipple thoroughly clean, to wash out the child's mouth with cold water after each feeding, and to use a food composed of one part of barley-water to two of milk, with the addition of a tablespoonful of lime-water to each half-pint. Small doses of bicarbonate of sodium, with peppermint-water, were prescribed every three hours. The nurse was also ordered to rub half a teaspoonful of warm olive oil into the skin of the abdomen twice daily, to anoint the surface involved in the intertrigo with oxide of zinc ointment, and to keep the feet warm by frictions with the hand.

The improvement under this treatment was rapid. On April 11 (the day of the last visit) his mouth was cool and free from thrush; there was little eructation; the bowels were natural; there were no more attacks of colic; the sleep was undisturbed; the child had begun to gain weight; and the intertrigo was very much better.

In other cases the symptoms are much more grave. The emaciation progresses to an extreme degree; the skin becomes dry, yellowish, and harsh, and hangs in loose folds over the bones,—and this, although a large quantity of food, such as it is, may be consumed. The combination of great wasting with a voracious appetite is very striking, and is only apparently contradictory, since hunger—the demand of the tissues for reparative material—cannot be appeased by food which, from its bad quality, is incapable of digestion or proper preparation for absorption and assimilation; unsuitable food, too, by irritating the mucous membrane of the stomach, creates a fictitious appetite.

Wasting children sometimes have what are termed "inward spasms." When these spasms occur, the upper lip becomes livid, somewhat everted, and tremulous, the eyeballs rotate or there is a slight squint, and the fingers and toes are strongly flexed. They frequently usher in true convulsions.

These "inward spasms," together with restlessness and irritability of temper, are ordinarily the only indications of involvement of the nervous system; but in a child who recently came under my notice there was a train of very misleading nervous symptoms. The notes are as follows:

Philip ——, 15 months old, of Irish parentage, became an out-patient at the Children's Hospital on April 9, 1880. He was the youngest of five children, all of whom are living and healthy. His father had suffered greatly from rheumatism, and his mother, who brought him to the hospital, looked pale and worn, though she stated that she never felt ill. The child had always been fed at the breast, dentition had progressed regularly, and his health had been good until five days before the date of application, when it was observed that he was more pale than usual, that his movements were more feeble, and that there was a tendency to retraction of the head.

When first seen, his skin was pale, the temperature to the hand was normal, and upon drawing the finger-nail over the surface the tache cérébrale could be faintly produced. His face was listless in expression, the veins of the forehead were distended, and there was marked and rigid retraction of the head, any attempt to move it forward causing cries of pain and being resisted by the contracted cervical muscles. The muscles generally were soft and relaxed. The anterior fontanel was open and was natural in appearance. The tongue was very lightly frosted; there was no indication of pressure upon the gums from an approaching tooth; he took the

breast greedily, and his bowels were moved once or twice daily, the stools being perfectly healthy. There was no alteration in the condition of the abdomen. On physical examination the lungs and heart were found to be healthy, though there was a trifling loose cough; the pulse was regular, and slow considering the age of the child, the beats ranging between 80 and 90 a minute. While resting in his cradle he took little notice, so his mother stated, of what passed in the room about him, but occasionally moved his head restlessly on the pillow and uttered several low, fretful moans. Any attempt at movement, as lifting him up to nurse, was attended by crying.

He was ordered two grains of bromide of potassium, with half a grain of iodide of potassium, in camphor-water, four times daily.

On April 12, being too ill to be brought to the hospital, I visited him at his home. I found him in a moderately clean room in a healthy quarter of the city. He rested passively in his cradle, his head bent backward, his eyelids half closed, his thighs drawn up towards his belly, his arms bent at the elbows, and his hands held up under his chin. There was evidently greater prostration, more wasting, and a nearer approach to stupor. The skin was pale and cool; there was no eruption or maculation; the eyes were sunken and the fontanel somewhat depressed. The breathing was regular, and the pulse was slow and regular, but compressible. The belly was natural in shape, and soft; the tongue was slightly coated; the bowels were moved two or three times daily; there was no vomiting, and the appetite was good. In order to test his capacity for feeding, his mother was directed to put him to the breast; the child began to whimper as soon as he was moved, but when the nipple touched his lips he quickly seized it, made several forcible efforts at suction, and then dropped it with a cry as of disappointment. The breasts were examined and found to be small and flabby, and to contain little or no milk. This discovery suggesting an alteration in the diet, directions were given to feed the child chiefly upon cow's milk, and to reserve the breast-milk for the night. An attempt was also made to increase the flow of the latter by advising an improvement in the mother's dietary. The bromide of potassium mixture was continued.

On April 14 the symptoms were still more serious. When closely questioned, the mother reluctantly admitted that she had not fed her baby as ordered, having no means of procuring milk, and further that, her husband having been out of work for several weeks, her own food had been reduced to a very moderate allowance of bread and tea. In consequence the flow of milk had gradually failed, particularly so during the preceding two days, the knowledge of her child's wants and her total inability to supply them producing an exceedingly nervous, despondent condition, and increasing the effect of the starvation diet.

She was readily put in the way of obtaining substantial relief, and after some trouble reassured and persuaded to persevere in the care of her baby. Improvement began simultaneously with the administration of food; the partial stupor, the retraction of the head, and the depression of the fontanel soon disappeared; the little patient began to gain flesh and color, and his muscles became more firm. The bromide of potassium was stopped, and two drops of the syrup of the iodide of iron were given three times daily.

On April 30, the date of the last visit to the hospital, convalescence was thoroughly established. On September 21 the child was in good health.

In this case the retraction of the head, the boring of the head into the pillow, the peculiar decubitus, the general hyperæsthesia, the semi-stupor, the marked prostration, the slowness of the pulse, the tache cérébrale, and the vomiting suggested the existence of tubercular meningitis; but this opinion was reserved on account of the absence of many characteristic features of the disease. Thus, the open fontanel was level; the belly was natural in shape; the bowels were the reverse of constipated; the respiration and pulse were regular; and there was no hydrencephalic cry. Furthermore, no account could be obtained of an initial stage of slowly-failing health, and in other respects the course of the illness was different from that of the suspected disease. At the same time, the idea of such symptoms being due to partial starvation was not entertained until they began to disappear almost immediately upon an increase in the quantity of food. Taking a retrospective view, however, it is easy to refer the anomalous symptoms to an intensely excitable nervous system, — a condition depending upon insufficient nourishment, and differing merely in degree from that leading to the "inward spasms" already referred to.

In a paper on "Starvation Fever," recently read by Dr. Da Costa before the College of Physicians of Philadelphia, three cases are detailed in which a still different set of symptoms were noted.

The first case, a girl aged 3 years, had frequent vomiting, great weakness, giddiness, a feeble and rapid pulse, fever, and loss of vision. Death took place on the thirteenth day.

The second, a pallid, badly-nourished boy 4 months old, had repeated convulsions and a petechial eruption. Death occurred at the end of twenty-four hours.

A post-mortem examination was made in both instances, and, besides minor alterations, the gastro-intestinal mucous membrane was found to be pale and thin, and there was an effusion of serum into the pleural sacs.

The third patient, a feeble girl of 3½ years, had fever, followed in a short time by bronchitis, which subsequently ran into broncho-pneumonia. Recovery took place on quinine and a supporting treatment. The bronchitis and broncho-pneumonia undoubtedly depended only indirectly on the starvation, which, by leading to weakness and ill health, rendered the child very susceptible to the ordinary causes of catarrh.

In the treatment of wasting from insufficient nourishment the first thing to be attended to is the diet. Without entering at length into this subject, it may be stated, as a general rule, that in selecting a diet the object should be to fix upon one which is suited to the age and digestive powers of the child, so that he may be able to digest, and therefore be nourished by, all the food consumed.

At the hospital I have found that children under twelve months, who have to be either partially or entirely "brought up by hand," ordinarily do well upon cows' milk with lime-water or with barley-water. The food should be administered from a bottle capable of holding half a pint, made of colorless glass, so that the least particle of dirt may be readily seen, and provided with a soft india-rubber nipple. The whole quantity of food intended to be given in a day should never be prepared at once, but each portion should be made freshly and separately at the time of administration. Thus, a bottle such as described, as nearly absolutely clean as possible, may be filled with a mixture of one part of lime-water to two or three of sound milk, or with one part of barley-water to two or three of milk, to which may be added from one to four teaspoonfuls of cream and one or two lumps of cut loaf-sugar; the nipple (also perfectly clean) is next applied, and the bottle placed in hot water until the contents become warm, when it is ready for the child.

The degree of dilution of the milk and the proportion of cream added vary, of course, with the age. Lime-water is used as the diluent when there is frequent vomiting or acid eructation, barley-water* when it is desired to prevent the formation of a large compact curd.

After the digestion has been brought into good condition by such a diet, the food may be cautiously increased to the point suitable for a healthy child of the same age: for instance, at eight months from two to four fluidounces of thin mutton- or chicken-broth, free from grease, may be allowed in addition to the milk; at twelve months the yelk of a soft-boiled egg, rice and milk, and carefully-mashed potatoes; and after sixteen months a small quantity of finely-minced meat.

Once daily the patient should be bathed in warm water, or, at least, sponged over with warm water, and every morning and evening a teaspoonful of warm olive oil or of cod-liver oil should be gently rubbed into the skin, especially of the abdomen and chest. At the same time the belly should be completely covered with a soft flannel binder, and the feet kept warm. In this way attacks of colic, if not entirely prevented, are rendered much less frequent and severe.

When there is intertrigo, cleanliness and the free use of oxide of zinc ointment usually suffice to effect a cure.

Of medicines, bicarbonate of sodium, pepsin, and cod-liver oil are, perhaps, most useful. Cod-liver oil should not be given until the digestive powers have been brought into a comparatively normal state by proper food, antacids, and digestants. It seems to be most easily borne when given in emulsion, and may be advantageously combined with lacto-phosphate of lime or with the hypophosphites.

Such symptoms as constipation and diarrhœa demand, of course, appropriate treatment.

CASE OF CEREBELLAR ABSCESS.

BY LAMBERT OTT, M.D.

M. S., æt. 20, married, American by birth, always delicate; gave a good family history; was nursing first child, then five months old. In her eleventh year she had scarlet fever, which left a chronic otorrhœa. This discharge was purulent, now and then ceasing, to return again in a short time. This trouble, which was confined to the right ear, produced entire deafness on that side. The

* Barley-water is made by putting two teaspoonfuls of washed pearl-barley in a pint of water, boiling down to two-thirds of a pint, and straining.

membrana tympani was destroyed, and the discharge blocked up the canal, preventing a further view,—evidently an otitis media. Saturday, October 4, she moved, and retired that evening feeling very tired. The next day being Sunday, she rested, and made no particular complaint. Monday, October 6, she worked hard all day restoring order among her household goods, at the same time complaining of a dull, persistent headache, with great lassitude. She accomplished her work, and retired in the evening with an excruciating pain in the right side of the head corresponding with the side of the diseased ear. Tuesday she remained in bed, complaining of pain, great thirst, and fever. She then came under my notice. On first noticing her she was lying still, respiration imperceptible, very anæmic-looking, eyes closed, and face quite expressionless. In other words, she looked as one dead, and when informed that a physician was present she did not move. After arousing her, she repeated the above history of the headache, etc. Her condition was then as follows:

Pain still in right side of head, excruciating at times, never intermitting; no discharge from the ear; answered all interrogations intelligently, as one who was in every respect rational. After repeating some of her history, she prayed for death to relieve her from this intense suffering. Tongue was coated, dry, and quite red at the tip; when asked to protrude it the mouth was opened quickly, and, without any quivering or deviation to the side, was shown to its fullest extent. Pupils were normal and sensitive to light; no squint; no paralysis. Some fever, temperature being 101° F. in axilla; respirations 16; pulse 60, soft, and compressible; bowels very constipated. Her sleep was continually interrupted by the intense pain in the head, causing a moan that was audible in all parts of the house. Anodynes in large doses were given, with temporary relief. The sleep produced by morphia was somewhat refreshing, though on awakening she was greeted with the same pain. The neck was stiff, the patient moving it like a person having a large carbuncle on the post-cervical region. When she did apparently sleep without being under the influence of an anodyne, delirium of a passive nature was manifested. During the moaning she would turn from one side to the other, and then return, keeping this up for five minutes at a time. When moving or turning, muscular power was not in the least defective, lifting her limbs with great celerity, as one possessing the full strength of health. All these movements, this moaning, etc., occurred during an exacerbation of pain in the head, and as soon as it remitted she would fall into a death-like slumber. Questions were yet answered intelligently and without hesitation. Later, she was unable to get out of bed, and, when lifted, complained of severe vertigo,—so much so that her head was supported by an attendant while one held the body in position enabling her to pass water, which was done without difficulty. Urine contained no albumen. The extremities were moved when asked, and jerked quickly from the spot when pricked with a pin. Four days before death the temperature fell to 97° F. in axilla, pulse 56, and respirations 12 per minute.

From this time on there were no new symptoms. The right-sided headache persisted with continuous moaning, the patient not becoming at any time unconscious or seeming irrational. Just twelve hours before death she conversed about her trouble quite intelligently, communicating some of her symptoms. At the same time she was raised in a sitting posture for the purpose of administering some milk. Deglutition was then attended with some difficulty, three efforts being made before a tablespoonful of fluid was swallowed. She begged to be let alone, as it was very distressing to be handled. Noises did not seem to create any disturbance. Death was easy, taking place during one of those quiet slumbers, those in the room not knowing it until feeling the coldness of the extremities, and finding themselves unable to arouse her.

Autopsy.—Eleven hours after death, rigor mortis well marked. The external appearances of the body were peculiar, and may, perhaps, have been in some way connected with the pathological condition. There was ecchymosis of the left side of the entire body except the head. The right side was free from any such phenomenon. The patient was lying on her back during the dying hour, so that it could not have been produced by the force of gravity.

It is well known that brain-lesions on one side produce abnormalities on the other side. The disease was situated on the right side and the blood-stasis on the left. It may be merely a coincidence. Nothing of this nature was noticed previous to death. On sawing through the cranium a very offensive odor escaped, producing an audible puff, compelling us to relinquish our labors until the room was ventilated. After removing the calvarium, I found the brain in its external appearances healthy; superficial veins very much distended with coagulated blood. Removing the brain from the skull, and accidentally running the hand over the right side of the cerebellum, I found it quite soft and doughy to the touch; on incising it a very offensive greenish pus occupied a cavity involving nearly the entire right lobe. This cavity was irregular in its outline, and the walls were composed of shreddy, disintegrated brain-tissue. About one and a half ounces of pus were collected. The odor was detected by the friends in the neighboring rooms. The dura mater covering this lobe was healthy, but the pia mater and arachnoid were opaque, thickened, and in spots somewhat disintegrated. The left

and middle lobes of the cerebellum were healthy, only showing a little congestion. In other respects the remaining part of the brain presented nothing abnormal. The petrous portion of the temporal bone was normal; no caries. Internal ear not examined. No morbid connection between ear-trouble and abscess could be found.

Dr. M. Franklin saw the case with me, and pronounced the diagnosis of abscess of the brain. One can plainly see, from the symptoms mentioned, that locating it in the cerebellum would have been guess-work. Experience teaches us that abscess of the brain caused by chronic suppurative otitis is generally located in the cerebrum, and then you have convulsive movements, with mental disturbances. Cases of cerebral abscess have been reported where the patient was rational throughout the entire trouble, not having the slightest symptom to point to such a grave brain-lesion; so that localizing an abscess in the brain is a mere matter of conjecture, though there are instances where a positive diagnosis was declared, and confirmed by post-mortem. This case, in its bearing upon the functions of the cerebellum, does not give any new developments, but, on the contrary, seems to discredit some results deduced from pathological observations, giving the cerebellum a special function from the prominence of one of the symptoms.

One result deduced from experimental research is unsteadiness of gait. One week before death she was fully able to get out of bed to relieve her bowels, and nothing in the way of incoördination of muscular power was noticed. Weakness was prominent, requiring assistance to enable her to return to bed, and when once there she could move the extremities perfectly. There was really no definite test made to ascertain whether there was a loss of coördination; the inability to move well was due to great prostration and weakness, and as soon as the vertigo passed off, which generally happened after being erect for a few minutes, she could stand alone and move her limbs readily with a little assistance.

Another symptom advanced by some, as in a case reported by Dr. Tyson (*Amer. Jour. of Med. Sci.*, July, 1877), is a disposition to fall or pitch forward, combined with persistent vertigo. The patient described this as a sensation as though a heavy weight lay in the front part of the head, or as though his head was too heavy and tended to fall forward and downward on his breast. Such was not the case in this instance; if anything, she was disposed to pitch backward and throw herself from side to side, this occurring only during exacerbations of pain, to which cause I attributed it, and not to any influence produced by the diseased cerebellum. On being lifted up in the sitting posture to take nourishment her head would fall back and she appeared unconscious, but the contrary was ascertained by requesting her to drink, when there was a prompt response.

Nothnagel (*Berliner Klinische Wochenschrift*, April 15, 1877) says, "Sometimes disease of the cerebellum causes no symptoms during life which could indicate any brain-lesion, even though an extensive destruction of cerebellar tissue exists." Farther on he states that disturbances of coördination occur only when the median lobe (vermiform processes) is directly or indirectly affected by the disease. My case seems to illustrate the above assertions. Were it not for the dull, persistent, gnawing headache, with a history of a chronic discharge from the ear, the diagnosis of brain-trouble could not have been conjectured. Motor disturbances were absent. The entire right lobe was occupied by the abscess, but the middle and left lobes were free from disease. Dr. Kelp (quoted in *Monthly Abstract*, December, 1878) relates the case of a peasant suffering with cerebellar disease, in whom a post-mortem confirmed the diagnosis. He disproves the opinion advanced by Nothnagel, that disturbances of coördination occur only when the median lobe (vermiform processes) is directly or indirectly affected by the disease. The middle lobe was in no way affected, though motor disturbances, such as the gait of a drunken man and a tendency to fall backward, were present; a few months later paralysis set in.

My case, as many others, assists in settling the question as to a part of the function of the cerebellum being connected with intellection. A patient suffering with an abscess involving the entire right lobe of the cerebellum, able twelve hours before death to hold a rational conversation, is incontrovertible evidence. Other symptoms mentioned in published cases were not present in this one. They were probably due to some undetected coexisting affec-

tion, or merely a coincidence. Death was by exhaustion, the vital powers gradually wasting away, as manifested by the anæmia, debility, and emaciation.

The clinical history of this case has been somewhat detailed, and I have indulged in frequent repetition. As the case is unique, I have purposely gathered as many facts as possible, in order that those who make a special study of these organs may have the benefit of a complete history.

1601 COLUMBIA AVENUE.

HIP-INJURIES, INCLUDING HIP-JOINT DISEASE, AND FRACTURES OF THE FEMORAL NECK, SPLINT FOR.

Read before the Philadelphia Academy of Surgery, June 7, 1880,

BY DE F. WILLARD, M.D.,

Lecturer on Orthopædic Surgery in the University of Pennsylvania.

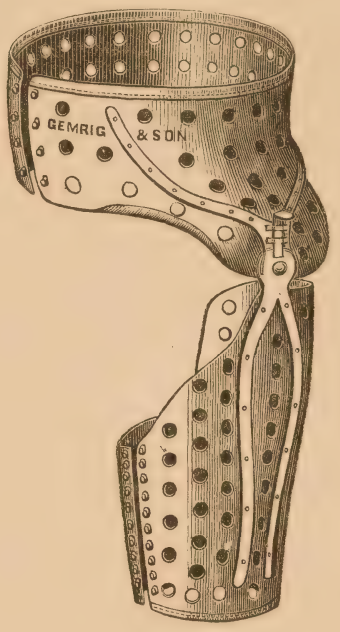
I DESIRE, in connection with the exhibition of the accompanying splint, not only to call attention to its adaptability to ununited or badly-united intracapsular fractures of the femur, but also to recommend it as an exceedingly useful support in the disabilities following sprains, lacerations, twists, and dislocations (congenital or traumatic) of the coxo-femoral articulation. Of its use in hip-joint disease, I would say here that it is of the greatest advantage in non-acute cases in the first stage, and in a large number during the other stages.

I have for several years been in the constant habit of fixing this joint in fractures of the upper portion of the thigh, and in all hip-injuries and diseases, by permanent dressings of binders' board, starch, felt, plaster of Paris, silicate of soda, etc., especially in the case of children; but the great inconvenience—in fact, the impossibility—of sitting while encased in one of these dressings, if properly applied,—*i.e.*, so as to embrace the thorax,—did not force itself upon my mind until I was obliged personally to resort to the use of such a dressing for the disability following a laceration of the ligamentum teres caused by a violent twist of the leg.

One has but to try the experiment to find that a position other than standing or lying is absolutely incompatible with comfort or the power to pursue any ordinary avocation.

I had often wished to make a joint in my hip-disease dressings, especially in adults who were obliged to attend to business, but, although familiar with the use of leather and felt for spinal dressings, it had not occurred to me to apply them to the hip until I chanced to see a leather apparatus for the relief of a paralytic trouble.

The difficulty with an ordinary jointed splint, however, would be that it would not put the hip perfectly at rest; and I accordingly have had Mr. Gemrig make me the steel joint which you see here, and



which can be locked and unlocked at pleasure, thus rendering the hip perfectly fixed until just at the moment of sitting, when by lifting the bolt (which can be easily done through either a gentleman's or lady's clothing) a perfectly movable joint is secured.

The method of constructing this apparatus is first to make a mould, by plaster of Paris bandages, of the body as high as the sixth dorsal vertebra behind and the lower limit of the ensiform cartilage in front, in order to secure a firm thoracic support; thence downward, covering in the pelvic region as low behind as the commencement of the internatal crease and in front to the summit of the pubis; thence over hip, buttock, and thigh to a point about three inches above the knee-joint. This

mould can be best taken over a light pair of bathing or other closely-fitting drawers. When thoroughly hardened, it is to be slit up, removed, and from it can be made a plaster cast which will be the exact shape of the individual to be fitted, every point and irregularity being represented.

Upon this cast wet leather is stretched and rubbed and worked until it exactly conforms itself to the surface, when it is allowed to dry *in situ*, the result being a perfect fit.

This leather is so tanned by Mr. Gemrig that, while it is exceedingly light, it is perfectly hard and tough, being much better than sole-leather or raw hide.

The above process, though costly, gives a most beautifully fitting apparatus, but I believe that, as the splint is to be worn outside of underclothing, a sufficiently accurate splint could be secured by simply applying the wet leather directly to the person of the patient, shaping it, and allowing it to remain in place a short time until it had hardened just enough to retain its conformation, thus avoiding both the plaster mould and the second cast, and saving considerable expense. The first-mentioned plan, however, is by far the better one.

When thoroughly dry, the body and thigh portions are separated, and connected by a joint attached to two spreading steel arms, as seen in the drawing.

This joint must be a strong one, and should be made double,—*i.e.*, not with a simple rivet, but by the same process as is employed in artificial limbs.

In the lower section is a mortise or slot (*a*) into which fits the bolt (*b*), worked (through the clothing) by the head (*c*), and thus perfect fixation is secured.

This bolt slides easily through the eyelets (*d*, *e*), and is retained in its place when lifted by a spring pressing like a finger against its side. The unlocking can be done in a second, during the act of sitting down. The whole splint is perfectly simple and can hardly get out of order. It is to be laced down the front of the abdomen and thigh.

The steel thigh-pieces could be united into one and continued down to the shoe; but, even though this be done, I consider the enveloping thigh-band as one of the essentials for fixation.

The numerous openings (*f*, *g*, *h*) render the apparatus lighter and give slight vent for exhalations. The total weight for a man weighing two hundred pounds is but forty-five ounces.

The joint allows only the hinge-motion, a matter which is of decided advantage in twists or lacerations, and also in hip-disease, where the round ligament is involved, as rotary and lateral motions would tend to prevent the needed repair.

To render the apparatus comfortable, it is necessary to cut away certain portions after the patient has worn it, especially the part in front beneath the ribs and above the groins. This can be narrowed down greatly so as to give comfort in sitting, for as the leather is stiff all necessary support is gained by the broad posterior portion, which embraces pelvis and thorax. The edges can then be padded with curled hair over salient points, and it will be found that greater ease is obtained by taking its weight off the hips by means of suspenders over the shoulders.

When locked, it is surprising how the weight of the body is transferred to the thigh through the medium of the steel without any strain upon the natural joint.

In the disabilities following injury I can testify that it is of the greatest service, and I have found it of marked benefit as a support in the late treatment of morbus coxarius, enabling fixation or mobility as desired, and so taking off weight from the impaired joint-structures that the crutches can be dropped at a much earlier period than would otherwise be safe.

It is applicable to a limited number of hip-disease cases,—*i.e.*, those in whom the inflammatory symptoms are not acute, in either first, second, or third stage. It should always be used, of course, in connection with the plan of crutches, and a high shoe upon the sound foot. Thus combined, I believe that it furnishes all the desirable points to be gained in the treatment of this terrible disease, since, while it gives absolute fixation at will, it also allows the patient to go about his ordinary out-door pursuits and yet to sit at comfort. All hip-disease splints do good only by fixation, and there is not one which is effectual if the weight of the body is thrown upon the limb.

To supply the lacking power of steadying the pelvis upon the thighs in cases of fracture of the femoral neck, and in instances of congenital dislocation of the head of the thigh-bone, I believe this splint

offers great hope, although I have not, until recently, had opportunity of testing it, and, of course, the future alone can decide.

1626 CHESTNUT STREET.

A CASE OF EMPYEMA WITH A GASTRIC FISTULOUS OPENING—TREATMENT WITH SULPHIDE OF CALCIUM—RECOVERY.

BY THOMAS H. STREETS, M.D.,
Passed Assistant-Surgeon, U.S.N.

EDWARD J., ordinary seaman, aged 22, a native of Sweden, received an injury while employed in the English merchant-service. He was engaged in turning a boat bottom side upward on the deck of the ship, when he slipped and fell beneath the boat, the gunwale striking him on the left side of the chest. He was immediately taken to a hospital in Lisbon, where he remained six months. Twice subsequently he received hospital treatment for shorter periods for the same injury. He enlisted in the United States naval service, January, 1878, and in the March following was admitted to the sick-list of the ship on which he served, with sharp, stabbing pains in the left side and symptoms of pleuritic effusion. In May he was sent to the Shanghai Civil Hospital, where he remained under treatment for ten months. March 1, 1879, the patient was transferred to the United States Naval Hospital at Yokohama, Japan. The hospital-ticket which accompanied him gave his condition as follows: "Thin and debilitated, and is said to occasionally cough up a pint or so of blood. Has occasional comatose attacks, wherein he takes nothing for twenty-four hours. Pulse 96, respiration 56, this morning" (February 4).

The patient's condition was considered very critical at the time of his admission. He was too feeble to walk, and could speak only in a whisper; he afterwards rallied from the fatigue of the journey, and was able to answer questions. He complained of constant pain in the left side, which was sometimes lancinating. There was so much tenderness and soreness over the whole front of the chest-wall below the nipple that he shrank from the slightest touch with the hands. There was no bulging of the left side; the intercostal spaces were sunken and the side slightly retracted. No movement of the intercostal muscles; ribs fixed, and respiration largely diaphragmatic. Recti muscles hard and knotted from constant action in respiration. The stomach was forced up under the ribs, and probably adherent to the diaphragm. Percussion-sound below very resonant; lung partly collapsed; respiration mostly bronchial; a faint vesicular murmur heard above; moist râles numerous; respiration on the right side exaggerated. There was no area of heart-dulness; the heart was displaced backward, and the sounds were almost inaudible. The lungs in this case probably became adherent to the heart, and drew it away from the wall of the chest.*

In addition to these thoracic symptoms, the patient was troubled with vomiting of blood and pus. Food occasioned vomiting, and it could be taken only in small quantities at a time and in a liquid form. The vomited matter, when not mixed with the food, was usually bright red, flecked with pus and with occasional streaks and spots of black, grumous blood. He likewise evacuated blood and pus through the intestines, and a constipated condition of the bowels added materially to his disquiet. According to the patient's statement, before he began to evacuate the pus through the stomach and bowels the left side of the chest was bulged out more than the right side, but immediately after this trouble began it subsided. At first, cough was not a prominent symptom in the case, but it became more marked later, the breath became fetid, and he expectorated considerable quantities of matter.

At times the patient would be bright and cheerful, feeling stronger, and desiring food and to be up and about the ward. The hemorrhages would diminish and breathing become freer,—not so diaphragmatic in character, and râles fewer. This state, however, usually lasted but a short time, when he passed into the opposite condition; he became very irritable, refusing to take anything, and would eventually lapse into a semi-comatose state. He lay on the affected side, breathing rapidly and laboriously, with tracheal rattling. The vomiting would cease and the pulse become a thread. In the warm weather of summer he required extra blankets on his bed and hot-water bottles to keep his

* Art. "Pleurisy," Ziemssen's Cyclopædia, p. 651.

extremities warm. He invariably rallied from these semi-comatose states when the vomiting recommenced, and they were probably occasioned by some obstacle to the free discharge of pus from the pleural cavity. As long as there was a free discharge he apparently suffered no serious discomfort, but as soon as the fistulous opening was blocked up he lapsed into the state just described. He continued in this way, up and down, for three and a half months, with death at any time expected. Milk and wine — the former with lime-water — were administered continuously. The only drugs that were given were Basham's mixture and an occasional tonic when the stomach would tolerate one.

It will hardly be doubted, I think, that we had here to deal with a fistulous opening from the pleural cavity into the fundus of the stomach. We have a history of injury to the chest-wall; a subsequent attack of pleurisy, with bulging of the left side from the accumulation of fluid, and its sudden subsidence when the discharge of pus began through the stomach and bowels; the symptoms of chronic pleurisy when he came into the hospital; the abnormally high position of the stomach under the ribs, and the tympanitic resonance of the lower portion of the chest.

On June 16 I began to give calcium sulphide, one grain daily, in one-fifth-grain doses. The aqueous solution was prepared freshly every morning, as recommended by Ringer. I was induced to give this medicine a trial on account of the strong testimony in its favor by Ringer in his "Medical Therapeutics," hoping that it might have a wider range of usefulness than in the treatment of boils and scrofulous abscesses, and that it might influence favorably suppurating surfaces generally. Improvement commenced immediately the administration of the medicine was begun. The cough gradually ceased, and likewise the vomiting. Formerly the patient shrank from the slightest contact of the hand to the left side; on the 20th of June, or on the fourth day after he began taking the remedy, that side could be percussed and handled as much as desired, and no soreness or tenderness complained of. On the 25th I find it recorded that there was no further vomiting or purging of blood and pus; no cough; general health greatly improved; getting stronger daily; good appetite, and can eat the regular hospital ration. Lung expanding; vesicular murmur much louder.

June 30, a Board of Medical Survey, composed of three medical officers of the navy, was held upon the case. He was considered unsuitable for further naval service, but was deemed in a fit condition for discharge from the hospital and the service. On July 2 the recommendation of the Board was carried into effect, and the patient commenced business in Yokohama, as a saloon-keeper, with the money which had accrued to him while sick.

U. S. Naval Asylum, Yokohama, Japan.

HOMATROPINUM HYDROBROMATUM.

BY P. D. KEYSER, M.D.

On the 8th of August, 1879, Prof. Ladenburg, of the University of Kiel, presented to the Berliner Academie der Wissenschaften a new derivative from belladonna, which he had discovered and called homatropin or homatropinum hydrobromatum. It is an oxytoluyltropein, and formed by the treatment of amygdalinate of atropin (*mandelsauren atropins*) with hydrochloric acid.

In the winter of 1879–80, Prof. Ladenburg gave a solution to Prof. Völckers, of Kiel, to test its mydriatic power in his ophthalmological clinic, who reports (March, 1880) "that he found a one-per-cent. solution dilated the pupil in about ten minutes, but in the greater number of cases not *ad maximum*. Often a slight reaction of the pupil remained. The accommodation is also paralyzed, but not so completely as by atropin. Already in six hours has the action of the homatropin considerably passed off; and after twelve to twenty-four hours every trace of mydriatic action and paralysis of accommodation is gone.

"He believes that homatropin will replace atropin in cases where it is necessary to dilate the pupil for the purpose of making a thorough ophthalmoscopic examination of the fundus, etc."

After this discovery by Prof. Ladenburg, Mr. E. Merk, chemist, of Darmstadt, made the salt, some of which he sent to Prof. v. Arlt, in Vienna, for use, and which he (Arlt) handed to his assistant, Dr. E. Fuchs, for trial, who gives his examination thereof in an article in the June number, 1880, of

the *Centralblatt für Praktische Augenheilkunde*, as follows:

"My experiments were made on a number of healthy persons, and in one eye a one-per-cent. solution of homatropin was instilled, while in the other a solution of atropin (1.5000 and 1.10,000) was dropped.

"The accommodation and enlargement of the pupils were at first examined every five minutes, and further on every two hours. The experiments gave the following results:

"1. The one-per-cent. solution of homatropin caused a dilatation of the pupil in twenty minutes, which reached its maximum in sixty to seventy minutes. The pupils were then 7 mm. and over in diameter, but still not as large (well dilated) as where a stronger solution of atropin was used; there was also a slight ability of reaction remaining.

"After two to three hours the action began to recede, and after five hours generally nothing was noticeable. After ten to twelve hours there was not the least trace of dilatation; in some cases the pupil was smaller than before the instillation. This is also sometimes observed after the discontinuance of instillations of atropin.

"In comparison with a weak solution of atropin (1.5000 or 1.10,000, the action of these strengths was almost the same), the dilatation of the pupil began ten minutes later than with the homatropin. In some cases it reached the full extent, while in others, not so great as in the homatropin. After twelve hours the mydriasis is very perceptible, particularly when comparing it with the other eye, in which homatropin had been instilled, and especially when the pupil is frequently smaller than before the beginning of the examination.

"2. The paralysis of the accommodation begins ten to twenty minutes after the instillation of the homatropin, and reaches its maximum in forty to eighty minutes. It was, like the dilatation, never absolute; in one case there was still 1.5 D. remaining. After five hours the paralysis of accommodation had passed entirely away; in some cases the near point approached nearer than it was before the instillations.

"After the use of a weak solution of atropin, the paralysis of accommodation begins in about the same time as with homatropin, reaches, however, a much less degree, and passes off as quickly as when the homatropin is used. Also here, a recession of the near point for a short time after the paralysis of accommodation had passed away could be observed.

"The comparison of homatropin with atropin in weak solutions gives, in relation to the accommodation, hardly a difference; but as to the dilatation of the pupil, the action begins earlier and passes off sooner than with atropin.

"Herein lies the superiority of the homatropin when it is desired to dilate the pupil for ophthalmoscopic examination. Generally after five hours the pupil has its normal size, and the patient has no further trouble."

Having procured some of this salt for the purpose of studying its action in the eye and comparing it with that of atropia and duboisia, I began the instillations with a weak solution of one grain to the ounce of water, then gr. ij up to gr. x ad ℥i.

My results accord exactly with those of Völckers and Fuchs, that complete paralyzation of the accommodation does not take place in a great majority of cases, and that the pupil is not always dilated *ad maximum*.

In the weaker solutions I think there is not sufficient strength to gain these points, while with the stronger solutions there is so much irritation as to cause an antagonistic action in the circular fibres of the sphincter pupillæ, just as we find in all irritations of the conjunctiva and cornea, causing some contraction of the pupil.

Even with a one-grain solution there is a slight irritation of the conjunctiva, which, however, soon passes off; but when a four-grain solution is used, in five or six minutes there come on a severe burning, smarting pain, and hyperæmia of the conjunctiva, which continue for some time. With an eight- or ten-grain solution quite a severe acute conjunctivitis arises, often requiring applications of cold water to subdue it.

This irritation alone will prevent its general use or displacement of atropia or duboisia, except in weak solutions to dilate the pupil for a short time to make an examination of the fundus.

In comparison with duboisia, I find that it does not begin its action any sooner, but passes off much more readily; completely in six to twelve hours, while duboisia requires from one to four days, according to the strength of the solution used.

Duboisia has also the advantage that it does not irritate the conjunctiva, and di-

lates the pupil *ad maximum*, and completely paralyzes the accommodation. Care should be taken when using it to prevent any from flowing down the tear-duct and causing toxical effects.

In examining cases of refraction under homatropin with comparatively weak solutions, the paralysis of accommodation was often of so short duration and so incomplete that changes took place while the testing was going on and before the defect could be accurately determined. With the stronger solutions, the conjunctival irritation was often so great that the patient was not at rest, and the determinations were very unsatisfactory.

In five out of my twenty cases, after paralyzing the accommodation with a four-grain solution of homatropin as far as it could, I found that on instilling a two-grain solution of duboisia the pupil became more dilated, and the paralysis of accommodation was further increased; thus showing the greater power of duboisia.

There is no doubt, however, that homatropin is a great acquisition to the ophthalmologist, as well as an advantage to our patients, in so far as its action passes off so rapidly and relieves the long and disagreeable feeling caused by atropia or duboisia, in cases where a temporary dilatation of the pupil is necessary for the purpose of correct diagnosis in troubles in the posterior chamber and fundus of the eye.

A CASE OF UNUSUAL INJURY OF THE FACE.

BY B. L. MILLIKIN, M.D.,

Resident Physician, Children's Hospital, and ex-Resident Physician, University Hospital, Philadelphia.

R. B., an Italian, æt. about 30 or 35, came under my care on July 28, 1880, suffering from a severe and unusual injury of the face.

While inspecting a coal-mine with a lamp, on the 17th of July previous, a portion of the roof of the mine fell, striking him upon the right anterior aspect of the face (so far as can be determined), and producing severe injuries. He was not unconscious when seen by another physician shortly after the accident, nor were there any symptoms of injury to the brain or its membranes, such as concussion or compression.

Upon making an examination, I found the following condition of the parts: externally there were several lacerated wounds,—one extending just above and parallel to the right eyebrow, one down the median line of the nose, and one extending from the border of the lower lip down the median line to the point of the chin,—all partially healed when seen, ten days after the injury.

There were no other evidences of any external injuries.

Upon examining the bony structures, I found more serious trouble. The inferior maxilla was fractured through the symphysis, and the fragments were freely movable; the nasal bones had sustained a compound comminuted fracture, several loose pieces having been removed by the physician first in attendance; the superior maxillæ had sustained fractures of both alveolar processes, all the teeth of either side remaining *in situ*, and it is also highly probable that there were other fractures of the bodies of the superior maxillæ, not recognizable at the time of examination.

Besides these, there was also a separation of the palatine portions of the superior maxillæ in the median line, as well as of the horizontal plates of the palate-bones, to the extent of three or four lines, and the vomer was so thoroughly disengaged from all connection with the palate-bones that it could easily be seen in the open space throughout nearly its entire length.

The soft parts of the palate were torn along the line of separation of the bones up to the junction of the hard and soft palates. Two teeth were missing in front in either jaw, and I removed a small spicula of bone from the median line of the superior maxillæ. It is also probable that there was a fracture or displacement of the pterygoid process of the sphenoid bone.

The treatment was simple and effectual. The parts were thoroughly cleansed by injecting disinfecting washes into the nasal cavity and mouth; a pasteboard cap usually employed in fractures of the inferior maxilla was made for the chin; compresses were applied over the alveolar processes of the superior maxillæ; and, the parts being in good apposition, the whole was held in place by a Barton's bandage firmly applied. Only liquid foods were allowed.

Within two weeks from the first application of the bandage the opening in the palate had entirely closed, and the alveolar processes and other fractured parts were becoming quite firm. At the expiration of four weeks the man left my charge without permission, but at that time the parts had all healed up, and the bone-fragments were solid, and all in good approximation, with the exception of the inferior maxilla, in which there was an unevenness of a line or two in the teeth of the two fragments.

This case is of interest not only on account of its rarity, but also on account of the extensive injury to the hard parts with a limited amount of injury to the soft parts. There was no evidence of any fracture of

the frontal bone along the wound near the eyebrow, nor were there any signs of injuries to the soft parts other than those enumerated. There was neither scar nor abrasion of the upper lip, over the alveolar processes, or the molar bones, beneath which the most serious injuries were inflicted.

The case is also of interest from the simplicity of the treatment employed, as well as from showing how quickly nature, when not too much interfered with, will restore serious and alarming injuries.

THE KITTANNING IRON-SPRING.

BY EDWARD T. REICHERT, M.D.,

Demonstrator of Experimental Therapeutics, University of Pennsylvania.

THE fact of the mere discovery of a new iron-spring would probably not elicit the least interest in the practitioner of medicine, since so many of these springs now abound whose medicinal waters are running to waste; but when it is found that in the water of this new spring there abound virtues far surpassing any of those of others of a similar character yet analyzed, and whose combinations and proportions of medicinal principles are something beyond precedent, it will not be amiss to give a passing and anticipatory notice of what is undoubtedly one of the most valuable of all recent acquisitions to our materia medica.

The undoubted efficiency of iron-waters in cases where none of the officinal preparations of iron could be tolerated does not appear to be so generally known to the profession as it should be, but even those few practitioners who have availed themselves of this bountiful product of nature's mysterious laboratory have used it at a disadvantage, because of the relatively small amounts of iron (often only the fraction of a grain in a gallon) contained in them, and, as a sequence, the very large proportion of water necessarily consumed in order to obtain the desired chalybeate effect. And notwithstanding the very small proportion of iron in many of these waters, and the absence of other desirable ingredients, the iron is frequently in a combination not nearly so desirable as it is in the subject of the present article, for, if Mitscherlich be correct in his deductions, the proto-salts are more readily absorbed than the sesqui-salts. It is an acknowledged fact that where iron is administered in any of the officinal forms a tendency to constipation is caused; but, owing to the large amount of salines in this water, this tendency is entirely overcome and the bowels maintained in a soluble condition, the kidneys are agreeably stimulated, and the general digestive and assimilative tone is increased.

The following analysis was made by Professor F. A. Genth, of the University of Pennsylvania, giving the contents per gallon:

	Grains.
Sulphate aluminium . .	1.52753
" ferrous oxide .	24.49271
" magnesium . .	26.84937
" calcium . . .	65.12190
" sodium . . .	8.72585
" potassium . .	.90762
Phosphate calcium . . .	.11036
Bicarb. calcium . . .	16.05445
" magnesium . .	.24629
Chloride sodium . . .	.64741
Salicylic acid	1.17201

The iron is precipitated after exposure to the air, and even after it has been bottled, but it remains in permanent solution if the water is charged with carbonic acid gas and kept tightly stoppered. The "*Kittanning Mineral-Spring Company*" (Kittanning, Armstrong county, Pa.) has furnished me with water in this condition, and I have used it in two cases with marked benefit where iron in officinal form could not be tolerated.

NOTES OF HOSPITAL PRACTICE.

UNIVERSITY HOSPITAL.

CLINICAL SERVICE OF WILLIAM GOODELL, M.D., PROFESSOR OF CLINICAL GYNÆCOLOGY IN THE UNIVERSITY OF PENNSYLVANIA.

Reported by CHARLES W. DULLES, M.D., Surgical Registrar to the University Hospital.

OVARIAN TUMOR—OVARIOTOMY.

THE patient was a colored woman aged 47 years, who had been tapped,* but in vain, before the medical class four days previous. The operation was done in a private room in the Hospital of the University of Pennsylvania, May 9, 1880, with

* See Philadelphia Medical Times for September 11, 1880.

use of the spray of carbolic acid solution, all instruments and sponges being treated also with carbolic acid solution. The abdomen was washed and wiped off with the same. The patient being rendered unconscious with ether, the first incision was made with a scalpel in the median line, about midway between the umbilicus and symphysis pubis,—a distance now, owing to stretching, of about ten inches. The incision was three inches long. As soon as the skin was cut through, a small quantity of gelatinous fluid escaped, which had come out in the line of the puncture made at the tapping, four days before, and burrowed an inch or two under the skin. There was a little bleeding from the superficial veins, which were varicose; but this soon ceased. The incision was now carried down through the peritoneum, and at once there gushed out a large quantity of serous fluid. Presently the opening was occluded by an irregular mass of colloid material, which had to be pressed aside to permit the flow of fluid from the abdomen. After some quarts had come away, this began to bring with it large diffluent masses of colloid matter, mostly of a straw color, but mingled with soft, white, caseous patches. After a little this became tinged with blood. Next, when the incision had been enlarged somewhat, there came an irregular mass, of mottled color, resembling in parts the colon, as if with very thin walls, and distended with jelly-like contents. Then a thin membrane appeared, looking like omentum, but shreddy, and resembling some gelatinous sea-weeds. This hung down over the upper and anterior part of the tumor. It had numerous enlarged veins. For the purpose of further exploration the incision was now continued, with scissors, upward and around the umbilicus. Inserting his hand, Dr. Goodell found the left ovary, but not the right. Working upward, adhesions were found of such a character that it seemed probable the tumor was attached to the mesentery. Pushing the exploration still farther, these were discovered to be simply the attachments of the colloid masses to the inner wall of a cyst which had burst, and collapsed like wet parchment. There was a great difference in different parts of the sac-wall. The left side was very thin, and had evidently burst, allowing the contents to escape into the general cavity of the abdomen. As much of the soft material as could be was now scooped out with the hand, and the remaining mass, about the size of an adult's head, lifted up so as to permit a more careful examination of its attachments.

It now became clear that the left ovary was intact, and that the tumor was a cystic tumor of the right ovary, with colloid and serous contents, which had burst and diffused itself through the abdominal cavity. It was firmly attached to the right broad ligament, and as well to the womb of that side. The uterus was normal in appearance, but dragged upward, so that its cervix was clearly above the level of the pubes. The pedicle was transfixed with strong silk (carbolized) and doubly ligated. The attachment to the broad ligament was treated in the same way, and both cut off. The remains of the tumor were now lifted out and removed. Several silk ligatures had to be applied to bleeding points on the womb. The abdominal and pelvic cavities were now sponged out. (It is to be remarked that the intestines and other abdominal viscera looked quite healthy, there being no evidence of local or general peritonitis whatever.)

A small sponge was now placed in the pelvis, and a large flat one upon the intestines, below the line of the incision, which was included in interrupted silk sutures, very long, and placed at intervals of about half an inch. When all had been placed, the edges of the incision were drawn apart, the sponge from the pelvis taken out between them, as well as that just below the wound, which had caught the little blood that oozed from the edges while the silk threads were being put in place. Everything being ready, the ends of the sutures were drawn up and tied, making a close and firm approximation of the sides of the incision. The patient was now cleaned, and the wound covered with a thick layer of antiseptic and absorbent cotton, while a binder was made to include all. She was then removed to bed.

[NOTE.—After the operation the patient reacted apparently very well, and for ten days there seemed to be a good promise of her recovery. After that time, however, she developed symptoms of peritonitis, and died on the thirteenth day after the operation. The mass removed from her abdomen at the time of operating was enormous, and estimated to weigh above seventy pounds.—REP.]

TRANSLATIONS.

CONGENITAL SCLERODERMA OF ONE-HALF OF THE FACE.—A. Pawlowski (*Cbl. f. Chir.*, 1880, p. 591; from *Wratschebnyja Wedomosti*) reports the case of a man of 26, who was brought to the clinic of Prof. Pelechin. On his right cheek could be seen an apple-sized, immovable tumor, without defined outline, merging in the surrounding skin. In the centre its consistence was firm, but it grew softer towards the periphery. The skin covering the tumor was normal in appearance, but could not be pinched up. The mouth was movable, and swallowing could be performed without difficulty, but the right cheek was absolutely immovable.

The tumor had existed from birth, and had not changed in size in the patient's recollection. It was sensitive to cold, exposure causing it to become red and swollen. On closer examination the facial nerve of the right side, except the twigs going to the eyelids, appeared to be perfectly paralyzed. The sense of touch, in comparison with the left side, was decidedly diminished. Electric conduction, on the other hand, seemed heightened. An elliptic piece was cut out of the middle of the tumor, and it was subjected to firm pressure alternated with the application of the galvanic current. In a short time the skin began to soften, and before long could be picked up in folds.

Microscopic examination of the affected skin showed the epidermis and rete increased in thickness, the ducts of the sweat-glands enlarged and tortuous. There was cell-proliferation in the sweat-glands themselves and in the sebaceous glands as well. Hæmatoxylin staining showed the whole thickness of the cutis, the reticular layer, and particularly the subcutaneous connective tissue, filled with vessels of various size. The adventitia of the vessels was infiltrated with white blood-corpuscles; the same infiltration could be observed in various localities in the tissues, sometimes in groups, sometimes in distinct series. They were more plentiful in the rete. The pars reticularis was almost entirely transformed into a compact mass of connective tissue; the hairs were short, brittle, and increased in number. The subcutaneous adipose tissue was wanting in most specimens; in some it took the form of small strips of fat cells compressed by bands of connective tissue, or of small masses of fat surrounded by firm connective tissue. In addition to the history of this case, Pawlowski gives a full bibliography of the subject, and points out the novelty of his own successful treatment.

REMOVAL OF THE VAGUS WITH A CERVICAL TUMOR—CURE.—Professor Lücke (*Cbl. f. Chir.*, 1880, No. 36) reports the following case. A woman whose sister had died with lymphoma malignum of the neck applied for relief from a tumor, oval in shape, rather hard, movable, and situated in the right submaxillary region. It was removed without difficulty, and the wound healed by first intention. On examination of the tumor by Professor Recklinghausen, it was pronounced a hyaline cancroid, connected with but not implicating the salivary gland.

About two years later the patient again applied for treatment, the disease having returned in the cicatrix and also under the right sterno-mastoid. There was no functional disturbance; the patient's health was fair. The smaller tumor in the scar was removed with some difficulty, being found to lie more deeply than appeared from its growth externally. There was much venous hemorrhage. The new, larger tumor was laid bare by an incision along the edge of the muscle, which was closely connected with it. On cutting this above and below, the carotid was found separable from the tumor, but the latter had grown completely around the jugular vein and the vagus. The vein was close to the upper border of the clavicle and above the tumor, and the piece was then removed with the tumor and with a portion of the vagus twelve centimetres (four inches) in length.

No noteworthy alteration in respiration and pulse occurred at the moment of section. The wounds healed rapidly. Five months later the patient showed easily-excited but otherwise normal respiration, the right arm was slightly weaker than the left, and the shoulder could be raised with difficulty. The right side of the neck was flattened; the pulsations of the carotid could be felt along the whole course of the scar. Pressure on the latter, particularly at the upper and lower stump of the muscle, aroused fits of coughing. There was suspicious hardness in the submaxillary scar, but no positive return of the growth. The right side of the face, particularly about the cheeks, showed a hy-

pertrophic condition, most likely the result of the ligature and removal of the common jugular vein.

Varicocele and its Treatment.—C. Nebler (*Inaug. Diss.*, Breslau, 1880; *Cbl. f. Chir.*, 1880, p. 635) urges the radical operation,—double ligature after laying open and excision of a section of the venous plexus,—with antiseptic precautions. He says this is absolutely without relapse and usually harmless. His views are based on five cases operated upon by Fischer. Nebler also concludes that atrophy of the testicle, which was observed as the result of two operations in Halle and once by Miflet, is not necessarily the result of the operation, but of the simultaneous wounding and ligature of arteries. Experiments on animals are brought forward by Nebler in support of this view. He regards the older operations as frequently dangerous.

Tuberculosis and Pregnancy.—Gaulard (*Thèse de Paris, Le Progrès Méd.*, 1880, p. 670) says that pregnant women are far from enjoying that immunity from acute and chronic disease which used to be supposed. Pregnancy exercises anything but a salutary influence on the course of tuberculosis. The puerperal condition aggravates phthisis, as does nursing. Gaulard brings forward a large number of cases in support of this view. In one series of thirty-two cases, phthisis existed before pregnancy; the aggravation of the disease was, so to speak, constant. In a second series, tuberculosis appeared at a more or less advanced stage of pregnancy, and became worse and worse until its termination. Finally, in a third series of cases, phthisis did not seem to show itself until a period more or less prolonged after accouchement. It seems to Dr. Gaulard that in these last cases the puerperal condition exercised considerable influence on the appearance of the disease. On the whole, the influence of pregnancy, as shown by Gaulard's statistics, is unfavorable: in pregnant women phthisis runs a more rapid course than in other women.

Treatment of Cystitis.—Diday (*La France Méd.*, 1880, p. 523) recommends patients suffering with this disease to drink daily a large glass of flaxseed tea mixed with orgeat or other flavor, or with some mineral water. A stimulating plaster twice the size of the palm is to be placed over the kidneys, and if necessary retained in position until it produces an eruption. The patient should take great care to resist the inclination to pass the last drops of urine. This is very important, and exercises an immediate happy influence on the tenesmus and the exudation of blood. In addition, a pint of an infusion containing the following powder is to be taken twice daily: ℞ Folii hyoscyami, gr. xii; sacch. alb., gr. ii.—M. A slight narcotic effect is produced by this infusion, which is favored by inunctions in the perineum with belladonna ointment, or by rectal suppositories containing one and a half to three grains of extract of belladonna. If the pain persists, the narcotics can be increased to a toxic degree, carefully watching their effect. During the morning the patient drinks every half-hour a tablespoonful of an infusion of forty-five grains of hyoscyamus in three ounces of water. In a few hours relief is almost always obtained. The medicine may be begun again after a few days if the trouble returns. Ice is indicated in anal tenesmus and enlargement of the prostate. For the prevention of ammoniacal urine the following prescription is recommended:

℞ Acid. benzoic., gr. xv ad xl;
Glycerinæ, f℥i ad ℥iss;
Syrupi acaciæ, f℥v.—M.

Sig. Half a teaspoonful to a teaspoonful daily.

Treatment of Fissure of the Anus.—In an unusually painful case of this character Dr. Glénerau (*Bull. Gén. de Thérap.*, vol. ii., 1880, p. 269) used the following means of relief. The patient took about a drachm of calcined magnesia in syrup every evening before retiring. In the morning she was seated upon a commode containing a boiling-hot decoction of belladonna leaves kept hot by fresh additions of the same, and the vapor confined by a wrap around the seat and body of the patient. After a few minutes efforts at defecation were made, which at first were very painful. When the pain began to lessen, the efforts were again made, and the pain became less and less. After the stool was finally passed, a few minutes more were spent over the belladonna vapor, and then the following suppository was placed in the rectum:

℞ Ol. theobromæ, ℥ijss;
Ext. belladonnæ, gr. iij;
Ol. amyg. dulcis, q. s.—M.

The ointment was smeared upon a wisp of lint, and this formed the suppository, which

was renewed if it fell out during the day, and was changed every morning after the fumigation. After eight days of this treatment the patient was much better: the magnesia was stopped on the tenth day, the suppository on the fourteenth, and the fumigation at the end of the third week, though the patient was recommended to use the latter from time to time.

Symmetrical Neuralgia in Diabetes.—M. Worms (*La France Méd.*, 1880, p. 627) thinks that no new fact which may aid in the rational classification of the different varieties of diabetes ought to be neglected. For this reason, he communicates notes of two cases of symmetrical neuralgia in the sciatic and in the inferior dental nerves occurring in the course of diabetes. This variety of neuralgia has not heretofore been described. M. Worms's conclusions from these cases are as follows:

1. There is a peculiar form of neuralgia which may occur in connection with diabetes, and which is characterized by affecting two symmetrical branches of the same nerve.

2. Thus far this form of neuralgia has been observed only in the dental and sciatic nerves.

3. Diabetic neuralgia appears to be much more painful than ordinary neuralgia.

4. It does not yield to the ordinary treatment of neuralgia (quinia, morphia, bromides); it becomes aggravated *pari passu* with the progress of the diabetes.

M. Worms classes this form of neuralgia with the diathetic varieties observed in gouty and chlorotic persons and in lead-poisoning. He leaves undetermined the question as to the existence of any perceptible lesion of the nerves or neurilemma.

Sub-Ungual Sarcoma of the Left Middle Finger.—Kraske (*Cbl. f. Chir.*, 1880, No. 38) gives the following instance of this rare form of disease. A woman of forty-two had felt a painful sensation under the nail of the left middle finger for twelve years, increased on the least pressure. The trouble was attributed to a severe squeeze. Repeated scraping of the nail over the painful spot gave only temporary relief. When first seen by Kraske, July 28, 1880, a linseed-sized blue spot could be seen under the nail, pressure upon which caused the most acute pain. The nail showed otherwise nothing abnormal, but, for reasons to be given, a sub-ungual tumor was diagnosticated, and the finger-tip was amputated without the removal of the phalanx and with a volar flap. The wound healed by first intention, and the patient was discharged a few days later quite free from pain. Examination (the details of which are given in the original) showed the tumor to be an angio-sarcoma. The diagnostic point upon which Kraske depended in deciding on the nature of the tumor was its peculiar suggillation-like appearance, an aspect which has been noted by Volkmann in a similar case, terminating fatally, however, by general sarcomatosis. This appearance is caused by congestion of the blood-vessels around the tumor, which is compressed between the nail and the phalanx.

Tuberculous Ulcers of the Tongue.—Reimann (*Inaug. Diss.*, Breslau, 1880; *Cbl. f. Chir.*, 1880, p. 633) says that this affection was first described by Portal, in 1804, and has since attracted increasing attention. It shows itself in the form of tumor and ulcer (probably stages of the same process), solitary or multiple. The latter form appears to be the rarer, as among eight cases collected by Reimann only one was in the form of an ulcer. The point of election appears to be the tip of the tongue and its border. The affection is usually secondary to tuberculosis of the lung and intestine. Since it is frequently painless, the differential diagnosis between this affection and syphilis or carcinoma is sometimes difficult, at least when the disease of the internal organs is not perceptible. The treatment of tuberculous ulcers of the tongue, when solitary, is usually excision. In most cases this is successful; but occasionally the wound made becomes itself a tuberculous ulcer.

Treatment of Exophthalmic Goitre by Duboisin.—Dr. Dujardin-Beaumetz (*La France Méd.*, 1880, p. 571) has substituted duboisin in hypodermic injections for atropin in the treatment of cardio-thyroid exophthalmos. In two cases where he has employed this treatment he has obtained great diminution of the palpitations and of the vascular throbbing. He has also observed a ready accumulation of doses, although he has injected only very small quantities of the drug,—a quarter milligramme to a half milligramme at the most. At the end of a few days unquestionable signs of poisoning showed themselves, analogous to those brought about by bel-

ladonna. The solution used for the injections was composed of neutral sulphate of duboisin one centigramme, distilled water twenty grammes. Each syringe of one centimetre cube contained a half milligramme of the salt of duboisin.

Differential Diagnosis between Hepatic and Nephritic Colic.—In an excellent article pointing out the characteristic seat and nature of the pain felt in each of these diseases, Dr. Cornillon (*Le Progrès Médical*, 1880, p. 661) concludes as follows: "There is not the least resemblance between the painful points in hepatic colic and those of nephritic colic. In the first place, the latter are incomparably the most severe. In addition, the first are seated at the base of the thorax and above that point, as in the epigastric, cystic, dorsal, and scapular regions, while the pains in nephritic colic are referred to the inferior segment of the body,—the renal, lumbar, inguinal, and testicular regions. In doubtful cases the exact determination of their respective position is an excellent point in the differential diagnosis."

Internal Erysipelas; Erysipelatous Pneumonia; Consecutive Erysipelas of the Face.—Cuffer (*Cbl. f. Chir.*, 1880, p. 623; from *La France Méd.*) describes a case where fever, vomiting, dyspnœa, and pain in the right lower lobe of the lungs, with apparent pneumonic infiltration of that lobe, was observed eight days before admission to the hospital. Characteristic sputa were not observed,—which threw doubt on the diagnosis. On the third day after admission to the hospital, facial erysipelas, beginning first at the tip of the nose, developed without additional fever. On questioning the patient, it was found that he had shortly before lain in the bed of an erysipelas patient. Cuffer concludes that the disease attacked the lungs first, spreading thence to the trachea, larynx, pharynx, and so to the face.

Heart-Disease and Pregnancy.—Prof. Peter (Porak, *Thèse de Paris*, *Le Progrès Méd.*, 1880, p. 671) forbids marriage to a woman with cardiac disease. If she is married, he forbids pregnancy; if pregnant, he forbids suckling. When pregnancy and heart-disease coexist, Porak advises waiting unless some symptoms arise. Should trouble of the heart supervene on the approach of labor, this is to be hastened and terminated rapidly. If the woman's life is threatened, earlier premature labor, or even abortion, should be induced.

Pruritus Vulvæ.—According to Martineau (*Le Progrès Médical*, 1880, p. 530) pruritus vulvæ may be due to general causes, such as glycosuria, pregnancy, and nervous perturbation, or it may originate in mere local disorders, as intestinal worms (oxyuris), pediculi, tinea tonsurans, vesical calculi, vegetations or polypi of the urethra, or vulvitis. The general condition of the patient should be very closely looked after, and appropriate remedies should be applied to remove the remote cause of the trouble, whatever that may be found to be.

In the acute stage of pruritus accompanying vulvitis, emollient applications are, of course, indicated. Starch poultices (not linseed, for this decomposes too easily), lotions of infusion of belladonna, aconite, or poppy-heads, or of a weak solution of bromide of potassium or of chloral (three grains to the ounce), may be used. They should be hot rather than cold. Washes of corrosive sublimate of one-per-cent. strength may be employed when the stage of acute inflammation is passed.

Fifty parts of perfectly neutral glycerole of starch, containing one part of the following substances, tannin, calomel, extract of belladonna, or oil of cade, according to circumstances, may be used with advantage. Now and then light cauterizations with nitrate of silver prove advantageous. Révillout has occasionally found that the insertion of slices of citron between the vulva will allay the itching. In chronic cases Dr. Guéneau de Mussy anoints the vulva night and morning with the following:

℞ Glycerol. amyli, ℥j;
Potassii bromidi,
Bismuthi subnit., āā gr. xxv;
Hydrarg. chlor. mite, gr. x;
Ext. belladonnæ, gr. v.—M.

The vulva are to be washed with a dilute solution of borax containing a little emollient, as starch.

Delioux de Savignac follows the lotion just mentioned with a powder:

℞ Pulv. lycopodii, ℥j;
" bismuthi subnit., ℥iss;
" radicis belladonnæ, ℥ss.—M.

In very rebellious cases, hip-baths, each containing two to three drachms of corrosive sublimate, first dissolved in dilute alcohol, may be employed.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, NOVEMBER 6, 1880.

EDITORIAL.

INSANITY LAWS.

THE subject of the proper legal enactments for the control and protection of the insane has been of recent times the source of so much bitter writing that we hesitate somewhat in stirring it up. There is one point, however, concerning which action might well be taken at the present time. In several, if not most, of our Eastern States the law is such that in an acute case of mania, in suicide, melancholia, etc., very serious suffering might result, and no doubt has in some instances resulted. In this State the physicians have to make affidavit before a magistrate as to the asserted lunacy of the patient; in Massachusetts a magistrate has to endorse the commitment; in New York some legal officer—the County Judge, we believe—has finally to sign the papers. We believe that the law in New York allows the patient to be put in the asylum and retained there four days awaiting the proper papers; and certainly such is the custom in some or all of the State institutions. This obviates the difficulty of which we are writing; but no such proviso exists in our Pennsylvania law.

Suppose the acute maniac becomes violent on a Saturday evening in this State, nothing can be done legally until Monday; or suppose, under the Massachusetts law, the medical certificate in a similar case has been signed, the magistrate is not to be found, Sunday intervenes, and the requisite formalities are not completed until Monday. Meanwhile, what of the unfortunate patient? What is to be done with him? If poor, he is given over to the care of the police, who are just as liable to handle a lunatic with violence as they are to abuse an excited inebriate. Moreover, the lunatic, who should at once be sent to an asylum, is confined in the dreary cell of jail or station-house until he can be received into a hospital. Such confinement and such treatment may convert an acute into an incurable mania. If the insane man be rich, he is kept at home, to his own detriment and danger, and to the great distress, and perhaps actual peril, of his family.

At a recent meeting of the Councillors of the Massachusetts State Medical Society the president was requested, by a unanimous vote, to appoint a committee with instructions to consider the necessity of a law that will safely and carefully provide for the insane during the interval that now may elapse between the recognition of the madness and the commitment to the asylum. The need of such provision is not a mere fancy. Some few weeks since, we saw a lunatic in one of our large hotels, just arrived from Cuba, his father almost as distraught as himself with anxiety lest harm should result before he got his son safely lodged in an institution. It being late in the day, only with the greatest difficulty were the necessary formalities accomplished.

The necessary modification of the law might be very simple. Let it be allowed for two physicians to give an order which should give legal power for three or four days to the authorities of institutions to restrain lunatics until time was afforded for the same physicians to make the necessary affidavits, and the desired end would be reached. The requirements of our Pennsylvania statutes are, however, very foolish. The doctor who would falsely sign a certificate of insanity would make affidavit to the same. It would save expense and trouble if only the simple signatures of the physicians were required, and would afford just as much protection against the incarceration of the sane.

THE number of medical students in Philadelphia this year is about as large as in previous years. The inauguration of the preliminary examination has had a very perceptible effect upon the first-year medical class at the University, probably frightening off about twenty per cent. of the men. It has, on the other hand, attracted some who would not otherwise have presented themselves. The character of the University class is shown by the number of Masters and Bachelors of Arts and Sciences, these constituting over thirty per cent. of the class. The total class of the University is something over three hundred and fifty men. A curious feature is the large number of second- and third-year men: thus, there are more second-year men than there were first-year men offering themselves for examination last spring, the gains from other institutions more than compensating the rejections of the spring examinations, losses from sickness, etc., etc. The Jefferson class is stated to be larger than last year, numbering in all about five hundred and fifty matriculates. The class of the Women's Medical College is also larger than last year.

LEADING ARTICLES.

WHAT CAN MINNESOTA DO FOR CONSUMPTIVES?

THE antiquarian who shall examine our climatological literature some centuries hence, if he be an inductive philosopher and acquainted with Lucan, will probably take out his pencil and record, as his conclusion, *Jupiter est quodcunque vides, et quocunque moveris;* for, whether Cowes, or Mentone, or Cairo, in the Old World, or St. Augustine, or St. Paul, or Denver, in the New, be the theme, good and sufficient reasons will be found to be adduced in each instance to establish the proposition that each particular spot is the world's sanitarium, and that it possesses certain undeniable advantages over its rivals.

The unfortunate practice of extravagant laudation goes often hand in hand with failure to discriminate not only between different cases of the same malady, but even between different diseases; and so the fact that a given locality has acquired a reputation as a health-resort is regarded as a valid reason for recommending a trial of its virtues to those whose ailments have failed to yield to other treatment, with but little regard as to what may be their nature. And thus a resort possessed of material advantages for cases judiciously selected falls undeservedly into disrepute because it does not prove to be the grand catholicon for human ills.

In common with other sanitaria, Minnesota has suffered from this system of what may be termed miscellaneous recommendation; and the following statements are offered in the hope that the presentation of a few well-ascertained facts, as to what may be reasonably expected from its climate in cases of phthisis and what may not, will be of some assistance in enabling professional men to form an intelligent opinion when a visit to that State is contemplated for the relief of consumption.

Those who are familiar with the climate of Minnesota will pardon the unavoidable repetition of statements which have been already frequently made.

The elevation of Minnesota above tide-water ranges from eight hundred to one thousand feet. Its soil is composed almost entirely of drift deposits of three varieties, —blue clay, stratified clay, and gravel and sand; and these are covered to the depth of one or two feet by a rich silicious loam. The thermometric record for the last four years is as follows, the figures in all the tables indicating the annual mean:

	Maximum.	Minimum.	Difference.
1879 . .	71.7°	14.2°	57.5°
1878 . .	71.8°	23.7°	48.1°
1877 . .	69.9°	20.4°	49.5°
1876 . .	68.5°	14.5°	54.0°

The following table represents the barometrical observations for the same period:

	Highest.	Lowest.	Difference.
1879 . .	30.437	29.397	1.041
1878 . .	30.315	29.353	0.962
1877 . .	30.372	29.444	0.928
1876 . .	30.444	29.376	1.068

The mean relative humidity for 1879 was 65.3; for 1878, 67.7.

The amount of rain and melted snow is shown in the next table in inches:

1879	32.39
1878	22.78
1877	28.81
1876	23.67

The prevailing winds in summer are from the southeast; they are, however, more variable at this season than in the autumn or winter, when north and northwest winds predominate. The latter are dry in Minnesota, although cold and damp in the more eastern States, because of the different conditions under which they reach the two sections,—in the one case coming over the great lakes and Hudson's Bay, and in the other over a surface of land equal in area to the United States east of the Mississippi.

The persistent northeast storms of the Eastern States are infrequent in Minnesota. During 1875 the wind blew from that quarter on but ten days, in 1874 on twelve, and in 1873 on sixteen, and in no instance during more than two consecutive days.

The principal conditions, then, which have to do with climate are as follows: considerable elevation, a soil admitting of rapid absorption, low mean temperature, somewhat low barometric pressure, and winds which, especially upon the exposed prairies, attain a high rate of speed, but bring with them very little moisture,—in other words, a stimulating climate; and, speaking in general terms, under such circumstances we should expect to find that pathological processes of which an active hyperæmia and a tendency to rapid extension are distinguishing features will fail to be arrested and might even be aggravated. On the other hand, it will be reasonable to look for improvement in those cases in which the progress of the disease is slow, and indurated walls are opposed as a more or less effectual barrier between the diseased portions of lung and the unaffected pulmonary tissue. The stimulating effect of the climate, prejudicial in the one case, is helpful in the other.

As the object of this article is not to offer hypotheses, but simply to record facts, the *rationale* of the effect of low temperature and of a climate such as is under consideration will not be dwelt upon. The known resultants are a greater demand for oxygen by the various tissues, a consequent increased activity of the respiratory centres and more complete expansion of the lungs, with quickened appetite and improved nutrition. The facts observed during upwards of thirty years in Minnesota are such as to justify these conclusions. To speak broadly, the experience of physicians indicates that patients to whom the conditions in question are most suitable are those in the incipient and, if possible, in the pretubercular stage of consumption. Next to these, as likely to be benefited, is the class to which reference has been made, in whom the form of the disease is essentially chronic; nor is hæmoptysis in either class a contra-indication to a trial of the climate. It seems almost superfluous to say that in the case of the latter as well as of the former class the earlier relief be sought the better; but even when recovery is out of the question, instances are numerous of persons who have come to Minnesota with an expectation of life amounting at most to a few weeks, but who have acquired a reasonable degree of vigor, and have been in the active discharge of professional, official, or mercantile duties for periods varying from five years to ten, and even longer; who are not well, and who will eventually yield to the disease fastened upon them, but whose lives have been greatly prolonged, and the sum of whose comfort and usefulness has been greatly increased.

Dr. Lincoln, of Wabasha, Minn., says, in writing of the State as a health-resort, "I would not have an atmosphere too dry nor too damp. I would have the temperature variable, so as to induce a necessity and inclination to exercise, that digestion and nutrition of all the tissues may be promoted. I would not place myself at an altitude where I must breathe thirty times a minute to inhale as much oxygen as I ought to get in a respiration of twenty times a minute. I would look for a country where I could remain in the open air a part of every day. I would live in a house where an equal temperature could be maintained, and where good ventilation was active night and day. I do not believe it best for a patient with advanced phthisis to leave a comfortable house, be that where it may; but for the advantage of persons in the incipient stage of the disease the State of Minnesota has, in a great degree, the favorable conditions herein mentioned."

As to the length of time requisite for the relief of consumption, it may be said that in many cases permanent residence is

a *sine qua non*, while in almost every instance only a prolonged stay can be relied upon for recovery or even for decided improvement. It has happened many times that apparent restoration has begotten a false sense of security, and return to a former home has rekindled the disease and led to a speedily fatal issue.

It is better, for obvious reasons, that invalids should come to Minnesota in the summer or early autumn rather than late in the latter season or in the winter,—a precaution often disregarded. As regards persons who have derived or who may derive the minimum of benefit from a trial of the climate, a word should be said.

It has been remarked that phthisis of an acute type is unlikely to be benefited, and that in other cases the prospect of relief is in direct proportion to the period at which relief is sought. In addition to this, the climate of Minnesota tends to the development of catarrhal affections of the respiratory tract, and catarrhal phthisis, especially when the bronchial apparatus is extensively implicated, must be placed in the category of varieties least susceptible of improvement.

No distinction is made in these remarks between pneumonic and tubercular phthisis. While the prospect of ultimate recovery is, of course, greater in the former, the latter may at least be benefited, subject to the conditions which have been mentioned.

The following statistics are offered that comparison may be made with corresponding returns from other localities. It should be borne in mind that a considerable number of persons come to Minnesota with the disease so fully developed that relief is impossible, and that not a few of those whose death is attributed to consumption are in reality victims of senile bronchitis. The percentage of deaths from phthisis in Minnesota was, in

1879	9.9
1878	10.5
1877	11.1
1876	10.5

GLYCEROLE OF THYMOL.—The formula is—

℞ Thymol, gr. xx;
Glycerinæ,
Alcoholis, āā f℥i;
Aquæ destillat. ad Oj.—M.

Useful in pityriasis, and, when diluted, as an effective antiseptic mouth-wash.

CORRESPONDENCE.

LONDON LETTER.

THE present object of interest here is the opening of the medical schools and the commencement of another winter session, fraught with the hopes of so many first-year's men. How many of these ardent youths will fall out of the ranks before they take a qualification, how many will retire from the profession after having worn harness for some years, it is not possible to say. But the gift of prophecy would, it is to be feared, tell of a very heavy percentage of both. How many will fall victims to their warfare with disease in all its forms, also may not be told; but that a distinct number will so perish is certain. The profession furnishes non-combatant officers to the services; but, non-combatant or not, a considerable proportion contrive somehow to get killed, instead of dying in their beds,—as surely a non-combatant officer, if only for the sake of example, ought to do. Quite certain it is, too, that if a surgeon is fighting instead of minding his own business proper, he deserves to be—well, no, not killed, but wounded; an unskilled combatant will probably do the fighting just as well; but if the trained surgeon gets *hors de combat* it is not easy to supply his place.

Of course, with the opening of the session came the various addresses, when each lecturer poured out a sample of what he had got within him; and, it is needless to say, the samples varied. Following the lead of Henry Power and Michael Foster, Prof. Burdon Sanderson shook his fist defiantly at the time the student has to spend in acquiring information which he is not expected even to retain, as a rule, after he has left the examination-table. He earnestly impressed on his hearers the consideration that "the one thing needful" in medical education was neither the acquirement of scientific knowledge nor the preparation for examinations, but preparation for the responsibilities of practice; and with that view he gave an account of the system of instruction carried on in University College Hospital, in which the student was led, by successive practical lessons at the bedside, to observe and discriminate the signs of disease, to form a conclusion from them as to its nature, and, finally, to act for himself for the relief of the sufferer. "Every student," he said, "finds that from the moment that, having completed his studies in human anatomy and physiology, he becomes engaged in the wards of the hospital, he has very little time for other kinds of work, and that residue of time is subjected to still further diminution by the yearly increasing requirements of the examining boards, so that the final remainder of leisure available for real work outside the hospital is extremely small. The precious years which immediately precede a man's

entry into professional duty are far too valuable to be wasted in learning anything that he does not intend to retain." Yes, it is high time protest after protest should be issued against the "lumber-portion" of medical study,—the impedimenta of the student's onward march. One of the professor's most promising present pupils is, to my personal knowledge, getting up early in the mornings, when his memory is fresh, to—what?—to learn the ligaments! Of course it is very well for a practitioner to know the ligaments as an accomplishment, but not as a serious preparation for his conflict with disease, occupying a very distinct portion of those "precious years." Granting that it is pleasant to see a practitioner so well informed that he even remembers about his ligaments, still this knowledge is scarcely of that tremendous importance that it is needful to know it so thoroughly as to be able to carry it about with him. It may be questioned how far accurate remembrance of the ligaments will be of any avail to a man even when treating a sprain. And yet any other opportunity for making such knowledge useful can rarely come a medical man's way,—unless it be giving evidence at a coroner's inquest in a case of broken neck, when he might impress a jury with his learning by talking of the atlo-axoid ligaments; and then perhaps he would achieve the feat just as well by looking up the matter in Gray—just as I have done—as if he had carried the name in his head, ousting more useful information. However, it is good to see men who are not in practice, like Sanderson and Foster, insisting so firmly that men shall be educated to be of use to their fellow-beings in practice, whatever else they may not be.

Dr. Waters, in his address to the Liverpool School, pursued the topic thus: "The great object for which you come here is to learn how to recognize and treat disease,—to learn how to be of practical use in the alleviation of human suffering. The public estimate our services, and will honor and reward us, in proportion as we are able to treat successfully their ailments. They do not stop to inquire how far we are skilled anatomists or able physiologists,—how far we are good chemists or botanists,—but how far we can, by the application of remedial measures, cure their diseases; and therefore, although the sciences connected with medicine are of the highest importance, a knowledge of them alone will not make a physician or a surgeon." It is positively refreshing to find that once more medical teachers are recognizing the fact that the public would like to have something for their money; that what they want is a man who can benefit them in return for the money they pay,—in fact, "value received." This is a healthy reaction against the doctrine recently taught insidiously, if not formally promulgated, that it was first of all requisite that a medical man should be highly educated, familiar with the collateral studies of medicine, well informed in society, learned in the causation of disease, skilled in its detection, prophetic almost in his diagnosis, but impotent, or nearly so, as a therapeutist,—professing not to believe in drugs. The impertinence of this last was only equalled by the dishonesty underlying it. If the man who "disbelieves" in drugs arrived at his conclusion after long, patient, unbiassed trial of them, then his conclusions would be entitled to every respect. But when the assertion comes from lips which speak from the stand-point of the dead-house, from the physical examination in the hospital wards, when the tired teacher almost forgot to prescribe, then it carries no weight of conviction with it: it is undisguised impertinence which ought to be birched. When a patient comes to one in trusting confidence, placing health and life in our hands, and with them the prospects of his wife and children, surely in return a medical man with a spark of manly feeling or true self-respect will meet that trust as a man ought to do,—viz., by the fulness of knowledge. Ignorance which can be removed by pains is nearly as execrable and morally detestable as malice. To let a patient die for the want of knowledge which can be acquired if the effort were made properly, is nearly as wicked as to kill him purposely. To slay a patient by ordering him chloral when the respiration is failing,—no uncommon event, I regret to say,—because the prescriber is ignorant of the effects of chloral upon the respiratory centres, differs little from wilful murder. It is a pity that some of our teachers do not look at the matter of therapeutics from the stand-point of the day of judgment. I venture to think that, if they did, a number would reconsider their therapeutic belief.

Dr. H. Donkin, at Westminster Hospital, has looked at the subject in this light. He says of the doctor, "He, more than any, has to exercise, in the complexity of his relations, that fine taste, the heritage of the ages, which enables him to distinguish between right and wrong, and has constantly, while regarding his own necessary self-interest, to keep in view his bounden duty to his fellow-men. The doctor alone is paid for doing what all right-minded men would freely do for their fellows,—all that is in their power." Certainly; but do all of them do "all in their power," when they allow themselves to be grossly ignorant of the advances in therapeutics? Yes, and he puts forward ably a view too little entertained,—namely, the desirability of being personally familiar with some of the work done in the past; of knowing how the investigator worked, and registered his work, and put it on record; the bald facts of which find their way into text-books and are part of the permanent stock knowledge of the profession. He says, "Day after day utters new books, though not always new knowledge; and the work of those who have gone is either for-

gotten or reproduced, not always even then improved. We should perchance be spared some of the immoderate plague of crude, superfluous medical writing, were men more given to the study even of ancient works, and of those of the great departed moderns in their original form. And not only would literature be the gainer, but sound clinical knowledge would more abundantly flourish, were the original writings of such men as Cullen, and of Bright in later days, and of some, too, whom we are proud to have among us now, to occupy more of our student time. Practical medicine would scarcely be the loser were a colder welcome given to the appearance of compendiums and bald abstracts of others' works, and a less price offered for the committal to memory of lifeless catalogues of facts,—a labor through which it seems before all things necessary that he who would be highly examined must pass." The study of the work, well known and generally recognized as valuable, of some past writer in his own words would be a good addition to the present course of study, as regards the education and edification of the medical student's mind and his preparation to observe and think for himself, which all men ought to do, and a few do. He goes on to another subject: "It is the ignorance or the forgetfulness of the fact that many very palpable maladies can be traced no farther back in the chain of causation than to a link distinctly mental—however subtly, as we may allow, some physical change may underlie it—that leads so many of us, at the present day, to commit the gravest errors of opinion and practice. Leaving out of sight some diseases well known and trenchantly marked out by clear-cut symptoms, which can be referred with the greatest probability to an origin other than confessedly physical, there are many less definite but troublous ailments which defy all treatment, while their emotional cause remains undiscovered by the ignorance or indolent incredulity of the doctor. On the one hand, such maladies are derided as shams, or, on the other, are put down, to the infinite hurt of the patient, to some condition existing only in the mind of the physician, to cover his escape from the unpleasant necessity of confessing his ignorance. I cannot here expand this subject; but I have known cases of patients who suffered from wasting and many symptoms of failing health sent airily away, after a short interview with a doctor, to a distant country with the false brand of 'threatening consumption' upon them, to the great damage of their lives' work and prospects, when their every ailment was due to a mental trouble, which a little insight and sympathy would have induced them to reveal, and which, by such revelation, might have been largely, if not wholly, dispelled." Here is another charge brought against sundry members of the profession,—viz., that they possess not the requisite tact and knowledge to find out what is the matter with their patients, and send away these patients to foreign lands, to the detriment of all their worldly interests, when really they ought to send them away telling them to consult some one who may possess more insight. No; it is easier to send them away abroad and trust to time. If the patient gets well, then the credit of a cure is assumed; if the patient becomes really ill, then the opinion is confirmed. It is a curious suggestive fact that of the physicians who have the strongest partiality for sending their patients abroad, a large portion do not command the intellectual respect of their fellow-men in the profession, or are avowedly sceptical as to the efficacy of drugs. It is commonly enough said, "Oh, yes, he sends his patients abroad when either he does not know what is the matter with them or does not know what to do for them." And it is to be feared that this is not always mere scandal. These refuges of "ignorance or indolent credulity" are getting exposed one after another, and do not have the effect of increasing the confidence of the public in the profession.

In connection with this subject lies the cognate question of the morality, or rather the want of it, displayed by some of the resident medical men in health-resorts. Rather more than a year ago I saw the daughter of a doctor who had some consolidation of the apex of one lung, for which she had been sent to a Swiss valley for the preceding winter. She had enjoyed the foreign stay, for her mother, the younger children of the family, and the governess had gone with her. But this was a most serious expense. I asked, Had she had any medical treatment? The answer was, "None." So I prescribed a pill of arsenic and iron to be taken steadily during the ensuing winter, in addition to the residence abroad. She returned, and the doctor then, without any consultation with me whatever, stopped the pills. The girl came back in spring so ill that her mother at once put her back on the pills, under which treatment she has made the most satisfactory progress. Now, this means either culpable ignorance and presumption, or unspeakable villany. Words are unequal to express my detestation of such grasping greed, such low, shallow cunning. If this is to be the way that health-resorts have to be manipulated and engineered, then the practices of a Wall Street ring are respectable by comparison. But of course such transparent rascality defeats its own ends. This winter that patient is going to remain in England and take the pills, in preference to another experience of the climate, the still air, and the many hours of cloudless sky of that famous health-resort.

Dr. Donkin goes on to say, "The quack is not yet gone from among us; nay, rather, he

lives and he flourishes, protean in form and chameleon in hue. These are they who turn aside from the path of that duty which their profession, in its true and highest meaning, involves, at the lure of those rewards which fall alike to the unjust and the just, if indeed they come not to the first of these in the richest profusion. Trading, and only trading, in the name of science and humanity, they desecrate the one and make sport of the other for their own ignoble ends, using the screen of distorted knowledge to hide their base but too successful endeavors to build a fortune out of the ignorance and the superstition of the public whom they rob." In his concluding sentence he says, "If I have seemed to over-wantonly expose some plague-spots in our midst, or speak too strongly of our sins, I can say no more in extenuation than that I have felt as strongly."

Perhaps it will be a matter for surprise for some readers to learn that this lecture has appeared *in extenso* in the columns of the *British Medical Journal;* yet this is the fact. That periodical is waking up a bit from its lethargy of self-satisfaction. Listen. "How weary, flat, stale, and unprofitable is an ordinary meeting of a Branch Association! How tedious the orator! how listless the audience! how dull the debaters! No wonder the attendance is small; that Smith is too busy to be present, and that Brown instructs his wife to send an urgent message for him when the pipes and coffee are coming to an end." Such is the tenor of a letter on "The General Practitioner" in the number for October 16. It goes on, "The time has come for the settlement of the question whether the family doctor is to be a physician or a tradesman with a medical qualification. Can he dare to rest his claims for daily bread and social recognition on his knowledge and skill in medicine, or must he still be a compounder of drugs and an apt manipulator of bottles and sealing-wax?" Perhaps those very men whom the editor led off into indignation at some remarks of mine a year ago will read this letter and give it their earnest attention. Possibly an improvement is feasible (however desirable it may be is not the question) in some of those elements of the profession who degrade it in public estimation. The present position of the struggle at Guy's Hospital is not likely to elevate us in the eyes of the public, who are watching it with eager interest.

J. MILNER FOTHERGILL.

TO PRESERVE THE STRENGTH OF MAGENDIE'S SOLUTION.—The following is the formula of Dr. H. M. Keyes, he having called attention to its successful employment in Roosevelt Hospital some years ago:

℞ Morph. sulph., gr. cclvj;
Acid. salicylic., gr. viij;
Aq. destil., f℥xvj.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA ACADEMY OF SURGERY.

MEETING OF JUNE 7, 1880.

The President, DR. S. D. GROSS, in the Chair.

COMPLETE OUTWARD LUXATION OF THE BONES OF THE FOREARM AT THE ELBOW.

DR. J. EWING MEARS reported a case recently under his care at St. Mary's Hospital. The man was working near some machinery, when a revolving timber struck him on the inside of the right arm, just below the elbow. A complete dislocation of the bones of the forearm occurred. The upper ends of the radius and ulna lay above the outer condyle of the humerus; the arm was flexed at a right angle, and the palm of the hand turned towards the left side, with the fingers partly flexed. There was pain in the fingers and numbness in the distribution of the median nerve. The lower end of the humerus was readily felt beneath the tissues, which were firmly stretched over it, and there was apparently laceration of the tendon of origin of the muscles, arising from the inner condyle. No fracture was discovered, and but little motion was possible.

Reduction was effected by extension, counter-extension, and manipulation, and an angular splint was employed for five days. Subsequently passive motion was instituted and the angle of the splint varied. The patient has now good use of the limb, with but little stiffness.

Complete outward dislocation of the elbow is of rare occurrence. The mechanism of the injury in this case is easily understood, and was evidently due to rotatory and opposing force. The man, at the time of injury, was holding and drawing downwards upon a beam over his head, and had the elbow flexed.

Dr. S. W. Gross stated that he had reduced a backward dislocation of the head of the radius of nine weeks' duration. The patient, who was a farmer 28 years of age, and had fallen from a wagon, came to his clinic with the arm semiflexed, fixed, and pronated, and the head of the bone could be distinctly felt in its new position on the posterior surface of the external condyle of the humerus. Under ether, ordinary manipulations having failed, after the periarticular adhesions had been broken up by forced flexion and extension the dislocation was reduced in a few minutes with the aid of the pulleys.

Dr. O. H. Allis was unable to reduce the dislocation in an instance of this kind, which came under his notice eight weeks after the receipt of injury. The man has permanent deformity of the elbow, and the outer condyle is masked by the displaced bones of the forearm.

Dr. S. W. Gross had reduced a posterior luxation five weeks after the injury.

Dr. Mears was of the opinion that the difficulty in reducing old luxations of the elbow was dependent upon the important part played by the muscles in relation with the joint after plastic exudation had occurred. The ligamentous structures about the joint are rather simple, and yet neglected dislocations in this region are seldom reduced.

Dr. De F. Willard read a paper on a "Splint for Hip-Injuries, including Hip-Joint Disease and Fracture of the Femoral Neck" (see p. 71).

Dr. J. H. Packard spoke of a splint, which had a sort of saddle under the tuberosity of the ischium, that he had employed in coxalgia, and which he had described at a meeting of the College of Physicians about fifteen years ago.

RADICAL TREATMENT OF HYDROCELE BY INJECTION OF CARBOLIC ACID.

Dr. R. J. Levis stated that in 1872 he had begun to treat hydrocele with carbolic acid injections, because a more plastic grade of inflammation than that obtained by ordinary injections was required, and because incision gave rise to cure only through suppuration. His method is to withdraw the fluid by an ordinary trocar, and then to introduce the long nozzle of a syringe through the trocar into the vaginal sac. By this means the carbolic acid is thrown into the cavity, and there is no danger of its being injected into the cellular tissue of the scrotum. The carbolic acid crystals are merely liquefied by slight heat, or by a few drops of glycerin. To keep the injecting fluid ready for use at all states of temperature, about ten per cent. of glycerin or water may be added to the crystals. In summer the crystals become liquid without the addition of any solvent. The amount of carbolic acid which Dr. Levis injects is one-half a fluidrachm, and this is allowed to remain in the vaginal tunic. The operation is almost, if not entirely, painless, because of the local anæsthetic action of carbolic acid. The patients sometimes exclaim at the moment of introduction, but have a sensation of numbness rather than of pain. The pain, when tincture of iodine is employed, is much greater. Care should be observed to allow no acid to flow upon the external surface of the scrotum, for pain and inflammation will follow such contact. After the injection the patient is permitted to walk about the house until the weight and slight soreness of the scrotum cause him to lie upon a bed or lounge. The results after this method of treatment are excellent, for undue inflammation does not occur, there is no marked pain, and a radical cure generally occurs. Dr. Levis has never seen suppuration or sloughing follow this manner of dealing with hydrocele.

Dr. J. H. Brinton had seen quite severe inflammation follow the carbolic acid injection, and Dr. S. W. Gross had failed to cure a case in which he had employed it.

The President introduced Dr. F. H. Anders, of the Sandwich Islands, who gave the Academy an account of the leprosy as occurring in that country.

JOHN B. ROBERTS,
Recorder.

REVIEWS AND BOOK NOTICES.

THE MANAGEMENT OF CHILDREN IN SICKNESS AND IN HEALTH. A Book for Mothers. By AMIE M. HALE, M.D. Philadelphia, Presley Blakiston, 1880.

This little book hits the desired medium between too much and too little advice. It is very clearly and pleasantly written, and from its pages one could easily cull a hundred maxims, besides the "aphorisms" which the author has appended. The mother, guided by this book and by a fair amount of common sense, will less often send for the physician unnecessarily, and also less often omit to send when there is real need. While here and there a fault-finder might object to little things, it would be hard to find or to write a better book of the kind. E. W. W.

TRACHEOTOMY IN LARYNGEAL DIPHTHERIA (MEMBRANOUS CROUP), WITH ESPECIAL REFERENCE TO AFTER-TREATMENT; to which are added a few General Remarks on Diphtheria and its Earlier Treatment. By ROBERT WILLIAM PARKER, Assistant-Surgeon to the East London Hospial for Children, late Resident Medical Officer, Hospital for Sick Children, Great Ormond Street. London, David Bogue, 1880. 8vo, pp. 82. Illustrated.

This commendable essay, republished, with additions, from the most recent volume of the "Transactions of the Royal Medical and Chirurgical Society of London," is worthy the permanent form in which it is now presented. It is chiefly a personal expression of opinion, based upon quite a limited number (twenty-one) of cases of tracheotomy detailed in the volume, sixteen of which operations were performed by the author. Twelve recoveries followed these twenty-one operations,—a highly-flattering result, as far as it goes. Much stress is justly laid on the details of the treatment after operation,—a subject so thoroughly discussed by Sanné that we cannot avoid surprise at missing all allusion to that observer in the text.

Mr. Parker believes in the identity of croup with diphtheria. He recommends a special shape of canula in preference to those in general use; he seems to have more confidence in local applications to the diseased surfaces than have most practitioners, and is

a great advocate for the use of steam by the croup-kettle after the operation. He appears to be unaware of the use of the fumes of slacking lime.

While we believe that greater experience will lead Mr. Parker to modify many of his opinions and methods of expressing them, we commend his monograph to the attention of those likely to be called upon to perform the operation in question, as the details of the after-treatment—a most important element of success—are clearly discussed and appropriately illustrated. J. S. C.

HYGIENE AND EDUCATION OF INFANTS; OR, HOW TO TAKE CARE OF BABIES. By the SOCIÉTÉ FRANÇAISE DE HYGIÈNE, Paris. Cincinnati, Robert Clark & Co., 1880.

Ten prize memoirs termed "remarkable," and containing "valuable material," have been skimmed of their cream, which forms the contents of the "Hygiene and Education of Infants." Though somewhat peculiar in phraseology, and reading a little as did the "Manual for Mothers" of the olden time, a careful inspection will discover very few errors. What few corrections were imperative for the differences of our climate and customs the translator has briefly indicated in foot-notes.

The statistics of infant mortality in France for bottle-fed infants (p. 12) looked so bad that the translator, in a spasm of patriotism, has added a foot-note to say that "Fortunately these facts are not applicable to any portion of the United States." The truth is, however, that they are exceedingly applicable, hand-feeding in our large cities and in many smaller manufacturing towns exhibiting the same unfortunate mortality. The translator was obliged to render into English the honest words of one who, forgetting his national vanity, said, "To tolerate bottle-feeding at Paris is to absolve infanticide."

We come across many excellent hints in reading, as on page 29: "When on several successive days the baby takes each time all the contents of the bottle to the last drop, increase the proportion of milk and diminish the water;" and (p. 49), "An infant should not be weaned while it has an odd number of teeth." Beds of sea-moss, fern-leaves, or fine heather, easily renewed, are advised, and light should not be excluded from the room, either in sleeping or waking hours, from the infant's earliest days.

In short, it is a cheap, safe, and reliable little book to place in the hands of a mother, —one that neither aims at making her a family physician nor confuses her with technical language. E. W. W.

CONDITION OF THE PARIS SEWERS.—Some five men who went into a Paris sewer for the purpose of cleaning it were killed instantaneously by noxious gases.

GLEANINGS FROM EXCHANGES.

OPHTHALMIA NEONATORUM — PURULENT CONJUNCTIVITIS.—Dr. J. R. Wolfe, in a lecture on this subject (*Med. Times and Gaz.*, vol. ii., 1880, p. 259), says he has found that the larger number of the incurable blind owe their misfortune to the purulent ophthalmia of infancy. He urges upon practitioners the importance of abandoning the old routine treatment for this difficulty, and suggests the following measures. The diagnosis of the affection is as follows. On the third or fourth day after birth the baby's eyelashes are found stuck together with crusts forming at the borders, which are red. Next day the lids are more swollen, and the conjunctival sac filled with transparent, yellowish-colored serum and mucus. Within a week all the symptoms become intensified, and there is a copious discharge of pus, which runs over the cheeks. The eyelids are swollen so that they can only with difficulty be opened, and the cornea is found hidden and retracted in the purulent discharge. The cause of the trouble is that the child, in its passage from the uterus, has had its eyes inoculated with gonorrhœal or, possibly, leucorrhœal discharge from its mother's genital organs. The suppuration goes on in the eye until the reproduction of epithelium cannot keep pace any longer with the pus-formation; then the covering becomes imperfect; the conjunctiva and subconjunctival tissues are attacked at the limbus; ulceration or abscess of the cornea ensues, ending in perforation; the eyeball bursts; the lens is evacuated; and the ball shrinks. Should the eye escape disorganization in some of the milder attacks, opacity of the cornea is left behind, causing strabismus, amblyopia, nystagmus, or opacity of the lens-capsule (capsular cataract).

If the old-fashioned, deleterious treatment is followed, which consists in dropping a solution of argenti nitrat. (gr. x ad ℥j) into the eye, the effect is either that the pus washes away the solution, rendering it innocuous (for it never touches the diseased surface), or it irritates the cornea, denuding it of its protective epithelium; the cornea ulcerates, or an abscess is formed, leading to the disorganization just referred to. Meanwhile, the eyelids swell so that the ball cannot be examined, and when the swelling goes down the eye is found to be gone.

Dr. Wolfe's procedure is as follows:

1. When seen in the first stage, before the purulent discharge has set in, the patient's head is placed on a towel and secured on the doctor's knees. The lids are then everted, singly or together, and, after cleaning them with dry lint, he touches the conjunctival surface with lint dipped in this solution:

℞ Boracis, gr. x;
Aq. rosæ, f℥j;
Aquæ ad f℥vj.—M.

One dessertspoonful in two ounces of warm water.

He then puts a few drops of the solution of atropin upon the conjunctival surface:

℞ Atropiæ sulph., gr. j;
Aquæ, f℥ij;
Glycerinæ, f℥ss.—M.

The application is repeated three times a day. The atropin has an antiphlogistic effect upon the inflamed surface, and also, by dilating the pupil, relieves the tension of the eyeball. Dr. Wolfe never uses cold applications, nor does he employ ointments to keep the lashes from sticking together; washing with warm water is better. Dry lint is then applied to the lids and secured by an immovable bandage. The case is watched carefully.

2. When the case is found to be unmistakably one of purulent ophthalmia, the lids are everted one after another, dried as before; a few drops of the solution of atropin dropped in, the surfaces touched with a stick of argenti nit. two parts, potass. nit. one part, and a few more drops of atropin put upon the cauterized surface. When the conjunctival surface is bleeding (a favorable symptom), it is dried with lint and the cauterization repeated. The whole conjunctiva is touched, and also the *cul-de-sac*. He bathes it with lint and warm water, and covers the eyes with dry lint and a bandage. If one eye only is affected, the other is closed with court-plaster and covered with lint.

3. When called to see a case in the stage of advanced suppuration, say of three or four weeks' standing, the eyelids must be opened with great care, as the eyeball may be ruptured. If the cornea is found intact, the atropin and nitrate of silver pencil are to be used.

4. When an ulcer of the cornea or an abscess has already formed, it is the more urgent to use the nitrate as the only weapon to combat the disease. When the cornea is not actually ruptured, Dr. Wolfe generally manages to arrest the progress of the disease, and save it even if it is found in the process of softening or with an abscess. Such cases should be seen daily. In public hospitals or dispensaries Sundays must not be excepted, for one day's neglect may prove disastrous.

Ligation of the Subclavian Artery—Recovery.—Dr. John A. McKinnon (*Virginia Medical Monthly*, October, 1880, p. 524) operated in a case of traumatic aneurism following a gunshot wound, ligating the subclavian artery external to the scalenus anticus. The patient did well until the tenth day, when a profuse secondary hemorrhage took place. Anticipating this, Dr. McKinnon had prepared a bag of shot to be used as a compress should this accident occur.

The bag was made after the form and shape of a United States mail-bag, making the bottom very much larger in proportion to its length; the bag was large enough to hold the shot loosely. He used quilt-lining in its construction, for reasons afterwards to be explained. In the bag he put two and a half pounds of shot.

As soon as possible after reaching his patient, who was nearly dead from loss of blood, the wound was opened, clots removed; a free arterial flow was seen: a strip of adhesive plaster was so applied as to approximate the edges of the wound; and the bag of shot, dipped in the carbolized water, was placed over the incised and pistol-shot wound,—the aneurism pulsation being feebly felt. The hemorrhage was at once arrested. After twenty-four hours the patient complained so much of the weight that Dr. McKinnon emptied out about one-half of the shot from the bag and then replaced it. This remained on for forty-eight hours, when it was permanently removed.

The wound at once took on healthy action; the suppuration was very much diminished in quantity, and nothing more was done, except that the absorbent cotton was kept wet with carbolized oil, consisting of two drachms of carbolic acid to six ounces of the best olive oil.

The only subsequent trouble was the removal of the ligature, which remained until May 14.

Dr. McKinnon devised an elastic bandage, attached to the fore end of the ligature, which was, after as much tension as could be borne, secured with adhesive plaster over the shoulder. This, after about a week, caused the ligature to cut through the artery and become detached. Nourishment and opiates were assiduously attended to. By the end of two months the patient's convalescence was complete, except a partial paralysis of the arm, which was gradually improving.

Fracture of the Axis.—"A Medical Student" (*North Carolina Med. Jour.*, September, 1880, p. 159) gives an account of this fracture in a person executed by hanging. He had a fall of nearly eight feet, and was pronounced dead by the attending physicians about fifteen minutes after the trap was sprung. In the death-struggle nothing unusual was noticed. There were a few convulsive strokes of the limbs and the customary drawing up of the legs; soon after, his heart stopped pulsating, and death had cast her dark veil over his earthly existence. On examining the rope, it was found that the knot had slipped from under the ear and was resting above the atlas, necessarily throwing the head forward and the weight of the body on the axis. In hanging, the rope is supposed to be properly adjusted with the knot under the ear, but it often slips to the back or front of the neck, and the condemned man, ten chances to one, dies from asphyxia.

An oblique line of ecchymosis around the neck was distinctly seen, much darker than

the surrounding skin. The muscles of the neck were carefully dissected away and the atlas and axis exposed, showing the axis in close contact with the spinal cord. On examining the dura mater, pia mater, and arachnoid membranes of the cord, the two latter appeared much congested, some of their vessels having given way, thus allowing an effusion of blood into their cavity. The pressure of the fractured bone had partly broken down the anterior columns of the cord at the point of contact. The detached axis exhibited fracture on both sides at the junction of the body with the pedicles running across the transverse processes, parallel with the posterior portion of the body. The ligaments of the odontoid attachment and the odontoid process were uninjured. Fracture of the odontoid process in hanging is by no means common, but one at the above-named place is yet more rare.

The writer also mentions the case of a milkman who, while riding under a gateway, accidentally struck his head on the cross-bar over a gate. He apparently experienced no pain, but drove on until a movement of his head brought the odontoid process to bear on the spinal cord, which caused him to fall lifeless.

Results of Galvano-Puncture in Aneurism of the Aorta.—At the meeting of the French Medical Association at Rheims (*Med. Times and Gaz.*, vol. ii., 1880, p. 275; from *Union Méd.*, August 21) Dr. Petit stated that he had collected 114 cases, in 69 of which amelioration had taken place; in 38 death had taken place without any notable amelioration; in 3 no result is given; in 4 this was doubtful. In 39 cases the patients survived less than a year, although greatly ameliorated; and 10 survived from one to two years, the remainder surviving from two to five years. Amelioration was produced in 24 cases after a single application, and continued from two to seventeen months. In the others from three to eleven or twelve applications have been required, owing to the short duration of the amelioration, these patients succumbing shortly after the last application. In intra-thoracic aneurisms there were 30 successes to 7 failures, while among aneurisms which manifested themselves externally there were 36 successes to 31 failures. Amelioration was especially manifested with respect to the symptom of pain; and cessation of paroxysms of dyspnœa, return of appetite, sleep, etc., have also been observed. In 61 cases aggravation of symptoms is recorded; and this has been especially the case when the negative pole has been employed.

Professor Potain observed that it was an error to attribute to the production of coagulation the amelioration induced by electrolysis, and that it is a good thing that this is so, as embolism would be of frequent occurrence. Dr. Onimus also attaches little importance to coagulation, believing that the current exerts a vital and molecular action, to which the amelioration is due. When a coagulum is found in the aneurism, it is a mistake to attribute it to the electrolysis, as it is also met with when this means is not employed. M. Ollier observed that no case of durable cure has been recorded, and he prefers treatment by milk-diet and the iodide of potassium. Dr. Heurot considered it as a valuable palliative, relieving distressing symptoms even in desperate cases. M. Petit replied that, while a cure has been obtained only in two or three cases, very prolonged amelioration has followed in a great number.

Fœtal Endocarditis.—In the case of a pregnant girl of seventeen, under the care of Prof. Peter (*La France Méd.; Lancet*, vol. ii., 1880, p. 388), an active fœtus could be felt in the uterus; but instead of the usual *tic-tac* sound of the fœtal heart the first sound was replaced by a blowing murmur, almost immediately succeeded by a sharp sound like the normal second sound, and this was followed by a brief silence. The precise limitation of this sound to the area in which alone the sounds of the fœtal heart were heard, and the absence of any uterine contraction which could cause compression of the umbilical cord, showed that the sound must be due to a lesion of one of the cardiac orifices.

On examination of the child, which died during the last period of labor, the organs were found healthy, except the heart, which was enormously hypertrophied and seemed alone to fill the thoracic cavity. It was nearly globular in form, the right half being much larger than the left. The valves on the left side of the heart and those of the pulmonary artery were healthy, but the tricuspid valve was the seat of a "plastic vegetative endocarditis," the free edge being thickened, covered with projections, and its upper surface being uneven. The chordæ tendinæ were shortened and thickened, maintaining the valves in contiguity to the walls of the ventricle, so that it was impossible for them to fulfil their normal function. The right ventricle was dilated and greatly hypertrophied. The lesson to be drawn from the case is that when fœtal endocarditis has been diagnosed acceleration of the labor by all possible means is desirable to afford the child a better chance of life. The mother, it may be noted, had never suffered from rheumatism, and presented in her history nothing to which the condition of the fœtus could be ascribed. Whether she had suffered from syphilis was not noted.

Easy Expulsion of Biliary Calculi.—Dr. R. Kennedy (*Lancet*, vol. ii., 1880, p. 456) recommends the use of olive oil in large doses for the purpose of expelling biliary calculi. He has used it in a variety of cases in the past year, and always with complete success. In every instance in which the calculi were proved or presumed to have been the cause

of periodic suffering, these bodies were promptly and painlessly expelled in larger or smaller numbers by the use of *large* doses of olive oil. In some instances, where the patients did not exhibit symptoms of such acute suffering as are more commonly witnessed, but where obstruction to proper flow of bile was evident, satisfactory results have been obtained. In one case, given by Dr. Kennedy, six ounces of oil were taken at bedtime, followed the next morning by a full dose of castor oil. The bowels were not moved until the following evening, when an enema was given, which brought away a large number of small stones. The dose was repeated on the two following nights, and no more trouble ensued from the calculi. The administration of olive oil at intervals of a few weeks or months does prevent the reformation of the concretions, but does not do away with the causes or the diathesis upon which their formation depends.

CAUSE AND TREATMENT OF BROMIDROSIS OF THE FEET.—Dr. Thin, in a paper on the cause of the bad odor sometimes associated with excessive sweating of the feet (*Brit. Med. Jour.*, vol. ii., 1880, p. 463), calls attention to the fact that this odor does not belong to the sweat itself, but is in the coverings of the feet. In a case experimented upon to verify this fact, which has been noted by Hebra, the hands of the patient, a young woman, which sweat profusely, were free from odor, while the feet gave out a disagreeable smell in moist weather, being quite inoffensive in dry, bracing weather. The soles of the shoes and stockings being subjected to the action of an antiseptic, the smell was entirely banished. It soon returned, however, and examination showed the stockings to be saturated with a secretion filled with bacteria. When, however, the stockings were immersed in a jar containing a saturated solution of boracic acid and dried, the smell disappeared. Taking this hint, these coverings were disinfected with the acid previously to wearing, with good result. To prevent the sodden, disagreeable smell of the shoe-soles due to this same cause, the patient was directed to get cork soles. Each pair of these, after having been worn a single day, were placed overnight in the boracic acid solution, and were the next day dried. On the third day they were again ready for use. The skin was also washed with the boracic acid solution, which hardened and refreshed it. The cure was very satisfactory.

OIL OF EUCALYPTUS.—Dr. Siegen (*Lancet*, vol. ii., 1880, p. 387; from *Deutsche Med. Wochens.*) has been using the oil of eucalyptus in antiseptic surgery. He prepares a solution of the oil by dissolving three grammes in fifteen grammes of alcohol, and diluting with one hundred and fifty grammes of water. In this solution he soaks ordinary gauze. This dressing is applied in the wet state, covered with the usual gutta-percha tissue, and the whole kept in position by means of gauze bandages. Thus prepared, the eucalyptus gauze does not appear to irritate or produce eczema upon even sensitive skin, and is perfectly antiseptic.

In one case of a child with caseous glands of the neck, the instruments were dipped in a two-per-cent. solution of the oil, the surfaces were washed with the same, and the operation performed by scooping out the contents, draining, and applying a wet eucalyptus dressing as above described. Although the spray was not used in this case, the discharges which had penetrated the gauze were quite sweet upon the third day. The slight amount of pus remained odorless, and on the eighth day the cavities had contracted and healed. Cases of resection of joints, etc., are also reported by Dr. Siegen, where the eucalyptus oil worked very well.

TINNITUS AURIUM.—In a paper on the forms, causes, and treatment of tinnitus aurium, Dr. W. Douglas Hemming gives the following table, showing the classification of noises in the ear, together with the causes producing them:

KIND OF NOISE.	CAUSES.
1. Tidal "to and fro" noises, like the sound produced when a shell is held to the ear.	Tobacco; chronic catarrh of the middle ear, ending in undue contraction of intrinsic muscles.
2. Humming or buzzing noises, like the sound of a humming-top or the buzzing of a bee.	Impacted cerumen, eczema, foreign bodies or parasites in the external meatus.
3. Gurgling or bubbling noises, as of air bubbling through fluid.	Fluid in either (*a*) the tympanum or (*b*) the Eustachian tube; the result of catarrh.
4. Rustling or crackling noises.	Deficiency of cerumen (hairs in the meatus or on the membrane give sounds like an æolian harp); acute catarrh in its later stages
5. Constant rushing noises, like the falling of water in a cataract.	Venous congestion of the labyrinth.
6. Pulsating noises, often said to be like the beating of a drum; frequently synchronous with the pulse.	(*a*) Extra-aural causes, anæmia, aneurism, etc.; (*b*) arterial congestion of the labyrinth.

EXTRA-UTERINE PREGNANCY SUCCESSFULLY RELIEVED BY ABDOMINAL SECTION.—Mr. Lawson Tait gives notes (*Lancet*, vol. ii., 1880, p. 456) of the fifth case of abdominal section for extra-uterine pregnancy coming under his care. On opening the abdomen, the pregnancy was found to be seated in the right broad ligament, the Fallopian tube having ruptured at its lower aspect and the ovum escaped into the tissues between the folds, as had been the case in all the instances he had operated upon. He made an opening at the upper and anterior part of the cyst, removed the child, which it was previously ascertained was quite dead, cleaned out the cavity, stitched the margin of the wound in the cyst to the wound in the abdominal wall, and left in a wide glass drainage-tube. All the details have been previously described at length in Mr. Lawson Tait's record of his previous case, published by the Royal Medico-Chirurgical Society. During the following

three weeks the placenta came away in pieces, the cavity gradually closed, and the patient left the hospital in perfect health.

PURULENT CONJUNCTIVITIS CAUSED BY INOCULATION FROM ULCERS OR OTHER DISCHARGES.—Dr. J. R. Wolfe (*Med. Times and Gaz.*, vol. ii., 1880, p. 260) says there can be no doubt that purulent conjunctivitis may be produced by inoculation from other than gonorrhœal or leucorrhœal discharges. A little girl three years of age had been troubled for four or five days with a serious inflammation of the right eye. On examination, the conjunctival sac was found filled with a yellowish, ichorous discharge, not like the creamy discharge in infantile ophthalmia. Dr. Wolfe had no doubt that it was a case of inoculation. On inquiry, he found that the nurse was suffering from ozæna, and bloody pus from her throat or nostrils was found upon the pillow. The smell was so offensive that every morning the window had to be opened before the child's mother could enter the nursery. As the child was the nurse's bed-companion, there could be no doubt how the disease originated. The case did well, without leaving any trace behind after ten days' treatment.

TREATMENT OF SEA-SICKNESS.—Dr. Beard recommends the bromides, particularly the bromide of sodium, taken in large doses for one to three days before sailing, so as to produce a mild bromism, and this bromism should be kept up during the voyage if necessary. In addition, sulphate of atropia in doses of $\frac{1}{100}$ to $\frac{1}{25}$ grain may be given hypodermically or by the mouth, and repeated with sufficient frequency to produce great dryness of the mouth. This treatment may be adopted alone or with the bromides. Atropia will sometimes be enough alone, and it prepares the way for the bromides. Powdered citrate of caffein in two- or three-grain doses is useful in the sick-headache; or, as this causes wakefulness if given in the latter part of the day, cannabis indica in pills of $\frac{1}{2}$ to $\frac{1}{3}$ grain may be substituted.

UTERINE FIBROIDS CURED BY PREGNANCY.—Dr. A. N. Talley reports (*Virginia Med. Monthly*, October, 1880, p. 552) the case of a colored woman of 36 who had never borne any children, and who consulted him for an abdominal tumor. On examination, a multiple tumor consisting of four or five irregularly spheroid growths from small walnut to orange size embedded in one common tissue was discovered. The diagnosis of multiple extra-uterine fibro-cystic tumor was made. The growth increased in size for several months, when the woman became pregnant. On examination after labor, which was normal, no trace of the tumor was found, and some months later it showed no sign of returning.

VOMITING AS A SYMPTOM.—Prof. Potain, in a lecture on this subject (*Med. Times and Gaz.*, vol. ii., 1880, p. 401; from *Revue Méd.*), says there is in general much more vomiting in an affection of the brain or in disease of the kidney than in affections of the stomach, except cancer which has reached a certain stage. So that when one is in the presence of a patient who is constantly vomiting alimentary matters without the digestive organs manifesting any well-marked sign of disease, attention should always be immediately turned to the encephalon and to the organs for the secretion of urine.

FLACCIDITY OF THE IRIS AS A SIGN OF REAL DEATH.—Dr. Boyd B. Joll writes to the *British Medical Journal* of September 25, referring to a condition of complete flaccidity of the iris as a sign of real death. He says that it can easily be shown by synchronous compression of the globe of the eye in two opposite directions, when the pupil will readily assume an oval or irregular shape, whereas in apparent death no ordinary amount of compression in this manner will have the least effect in altering the circular form of the pupil. [A communication in a later number of the *Journal* goes to show that this sign cannot invariably be depended upon.—ED.]

TEST FOR ARSENIC IN WALL-PAPERS, ETC.—Dr. Henry Barnes gives the following easy test to detect arsenic in paper-hangings, etc. Immerse the suspected paper in strong ammonia, on a white plate or saucer: if the ammonia becomes blue, the presence of a salt of copper is proved; then drop a crystal of nitrate of silver into the blue liquid, and if any arsenic be present the crystal will become coated with yellow arseniate of silver, which will disappear on stirring.

GUNSHOT WOUND OF THE MEDIAN NERVE.—Mr. Lawrie communicates to the *Lancet* (vol. ii., 1880, p. 575) the case of a boy of 10, who was accidentally struck in the right arm by a charge of small shot. Several pellets were removed from underneath the skin in the neighborhood of the elbow, but none appeared to have penetrated more deeply. A good deal of superficial inflammation followed, and the boy lost the use of his forearm and hand. It was not clear whether this paralysis was immediate or came on gradually. Great and increasing pain in the arm and corresponding side of neck and body. Examined three months after the accident, a very peculiar drop of the right wrist was observed, with loss of power in the forearm and exalted sensibility in the palm of the hand. There was much glandular and lymphatic enlargement, which obscured the diagnosis, but thickening of the median nerve was satisfactorily made out about the middle of the arm, and Mr. Lawrie therefore cut down upon it, with antiseptic precautions. When exposed, the nerve was more than twice its proper size, and he was about to stretch it, when he detected a hard body in its interior. Instead of stretching, a longitudinal incision was made into its substance, and a pellet found and removed. The wound healed by

first intention, and the boy rapidly recovered power in the forearm and normal sensation in the hand, and was discharged cured in ten days.

New Method of Treatment in Prolapsus Ani.—Professor Kehrer (*New York Medical Record;* from *Deut. Med. Wochens.*, August 14) folds together a portion of the sphincter, and, after excision of its mucous covering, secures the folds by means of a firm suture. Thus a portion of the ring is eliminated, and the calibre narrowed correspondingly. In two cases subjected to this operation a speedy cure took place.

MISCELLANY.

Chronic Accidental Poisoning from Arsenical Wall-Papers.—In a paper on chronic accidental poisoning (*Practitioner*, vol. xxv., 1880, p. 175) Dr. Henry Barnes calls for legislative interference for the prevention of chronic poisoning from arsenic as contained in wall-papers, toys, confectionery, artificial flowers, etc. A paper on this subject, presented before the Medical Society of London, showed that out of one hundred cases thirty-two had occurred in the families of medical men, showing the difficulties attending the diagnosis of this form of poisoning. Dr. Barnes adds to the evidence already accumulated two cases coming under his personal observation. He draws the following conclusions:

1. Arsenical wall-papers are in common use. 2. These papers are capable of producing serious and even alarming symptoms in some persons inhabiting the rooms in which such papers are hung. 3. Legislative interference is desirable in the direction of imposing some check upon the free and unrestricted sale of poisoned articles. 4. Until such legislation is obtained, medical men should urge their patients to purchase only such wall-papers as are guaranteed "free from arsenic."

Treatment of Sprains.—Dr. R. Dacre Fox (*Brit. Med. Jour.*, vol. ii., 1880, p. 504) suggests the following treatment. It may be divided into two stages; the first lasting from a day to a week or longer, during which the treatment has to be directed to averting inflammation by rest, warm applications, anodyne lotions, etc.; the second commencing when the joint has become cold, swollen, and painful on movement,—in fact, when the injury has assumed a more or less chronic character. This consists of pressure applied (around the ankle, for instance) as follows. The normal hollows about the joint are developed as far as possible by kneading the swollen and œdematous tissues which have obliterated them; then five pads of tow, lint, or leather, about one inch by two to four, adapted in shape to the normal hollows, are applied. They may, in old chronic cases, be fastened in place by a long, extended, half-moon-shaped piece of plaster (emplastrum saponis spread on leather), long enough for the ends to overlap in front when the heel is placed in the centre, and a narrow, oblong piece above this, placed around the lower part of the leg, to cover the upper part of the pads. The handiest way to apply the pads is to apply an elastic ring over them, which may be cut when the oblong piece of plaster is put on. Lastly, the whole ankle is to be firmly bandaged.

The Vienna Medical School has sustained severe losses of late,—Rokitansky, Schuk, Oppolzer, Hebra, Skoda, Sigmund, and Hyrtl, constituting a constellation of teaching-power that, perhaps, has never before been assembled together in one school; and now all, as teachers, have disappeared, for, although the three last named are still living, they have retired from the faculty.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM OCTOBER 17 TO OCTOBER 30, 1880.

Baily, E. I., Lieutenant-Colonel and Surgeon.—When relieved by Surgeon Moore, to proceed to Wilmington, Del., and report by letter his arrival to the Surgeon-General.—S. O. 232, A. G. O., October 28, 1880.

Moore, John, Major and Surgeon.—Relieved from duty with Army Medical Examining Board in New York City, and to report in person to Commanding General, Department of the Columbia, for duty as Medical Director of that Department. S. O. 232, A. G. O., October 28, 1880.

Spencer, W. C., Major and Surgeon.—Assigned to duty at Fort Snelling, Minn. S. O. 129, Department of Dakota, October 25, 1880.

White, C. B., Major and Surgeon.—To report in person, at the expiration of his present leave of absence, to the Adjutant-General of the Army, for special duty in connection with the Recruiting Service. S. O. 229, A. G. O., October 25, 1880.

Caldwell, D. G., Captain and Assistant-Surgeon.—Assigned to duty as Post-Surgeon at Fort Fred. Steele, Wyo. T. S. O. 98, Department of the Platte, October 20, 1880.

Matthews, W. C., Captain and Assistant-Surgeon.—His assignment to duty at Cantonment on the Uncompahgre River, Col., revoked, and he is assigned to duty at Fort Wingate, New Mexico. S. O. 229, Department of the Missouri, October 16, 1880.

Torney, G. H., Captain and Assistant-Surgeon.—When relieved by Assistant-Surgeon Matthews, to proceed to Fort Lyon, Col., and report to the Post-Commander for duty. S. O. 229, c. s., Department of Missouri.

Wood, M. W., Captain and Assistant-Surgeon.—At the expiration of his present leave of absence, to report in person to Commanding General, Department of the East, for assignment to temporary duty. S. O. 232, c. s., A. G. O.

Cuningham, T. A., First-Lieutenant and Assistant-Surgeon.—Granted leave of absence for six months, with permission to go beyond sea. S. O. 227, A. G. O., October 22, 1880.

Burton, H. G., First-Lieutenant and Assistant-Surgeon.—Granted leave of absence for two months, with permission to apply for one month's extension. S. O. 230, A. G. O., October 26, 1880.

Gibson, R. J., First-Lieutenant and Assistant-Surgeon.—Relieved from temporary duty at Fort Leavenworth, and assigned to duty at the Cantonment on the Uncompahgre River, Col. S. O. 229, c. s., Department of the Missouri.

PHILADELPHIA, NOVEMBER 20, 1880.

ORIGINAL LECTURES.

CLINICAL LECTURE.

A SKETCH OF A CASE OF PROBABLE REMITTENT FEVER WITH CEREBRAL SYMPTOMS, WITH POST-MORTEM EXAMINATION.

Delivered at the Philadelphia Hospital

BY EDWARD T. BRUEN, M.D.,

One of the Physicians to the Hospital, and Demonstrator of Clinical Medicine in the University of Pennsylvania, etc.

GENTLEMEN,—Last year, about this time, I presented for your study some cases of anasarca which developed as the sequence of deficient vaso-motor tonus. I endeavored to prove that the action of the malarial toxæmia was sufficient to suspend the action of the nervous system governing arterial tension, and to bring about increased exudation from the blood-vessels, and diminished absorption. I also showed you that the secretion of sweat was not alone dependent on the blood-supply of the cutaneous vessels, but is also under the control of the innervation of nerves supplying the cutaneous glands, and that a suppression of the functional activity of the skin was also a possible factor in malarial anasarca or effusion into pleural sacs. These cases and my arguments in support of my position can be found in the *Philadelphia Medical Times* for December 21, 1879, in the Proceedings of the County Medical Society. To-day I wish you to note a case in which the malarial poison has expended its force upon the cerebral nervous system.

Morris F., æt. 36, has been for two years a servant in the house of the superintendent of this hospital, and enjoyed excellent health. During the first two weeks of October of this year he complained of malaria, but did not give up his occupation. On the 17th he was found in his bed, in the morning, delirious, and the temperature, as taken by his physician, was 103° F.; in the evening it was 101°. The 18th, A.M., temperature was 105°; in the evening 101°. The 19th it was 104° in the morning; in the evening $104\frac{3}{5}$°. I saw him at noon of the 19th. His mental state resembled that of acute mania. He was singing, talking rapidly, shouting, and the attendants could scarcely restrain him in bed. The pupils responded to light; no local nerve-paralysis, but there was a clonic spasm of right arm, with a tendency to flex the fingers of the right hand and retain them clenched, and he would *beat* his breast with this arm, while the other limbs were motionless. A spasm of the muscles of the throat rendered swallowing impossible. Wednesday, the 20th, the temperature fell to 98° F., without treatment except a bath of 95° F., given the day before to equalize circulation and favor heat-evolution. In the evening the temperature rose to 102° F. Subsequently the record was as follows: 21st, A.M., $101\frac{2}{5}$; P.M., 102°. 22d, A.M., $102\frac{2}{5}$°; P.M., $104\frac{2}{5}$°. 23d, A.M., 102°; P.M., 103°. 24th, A.M., $101\frac{2}{5}$°; P.M., 102°. 25th, A.M., 100°; P.M., 101°. 26th, A.M., $99\frac{3}{5}$°; P.M., $98\frac{2}{5}$°. Death occurred suddenly on the morning of the 27th.

Many of you saw this case during its progress in the wards. For the benefit of all, let me sketch the salient features of the case. These represent our patient as somewhat rational on the morning of the 20th, sufficiently so to give some account of his personal history, although he was by no means thoroughly rational. The difficulty of deglutition and spasm of the throat-muscle were on this day recognized as hysteroidal in type, for nourishment could be swallowed when food was finally offered to him.

In the evening of that day the delirium returned, and he never afterwards regained consciousness. His mental state became comatose towards the last, although at intervals, when aroused, he would converse incoherently in German, French, or English. Three days before death a paresis of the left buccinator muscle was noted; the cheek on this side seemed to flap loosely inward. He would always show signs of pain if the right arm was lifted or moved, the fingers of the hand were always tightly flexed, the thumb turned inward, though the clonic spasm ceased nearly a week before death. The special senses of sight and hearing were always intact. The urine dribbled involuntarily, and yet the bladder was at times much distended, and the catheter had to be used. There was evidence of some cystitis, with a small amount of albumen and some pus in the urine. The respirations were always about

thirty-two per minute, rather shallow, and for three days before death snoring; the pulse always indicative of arterial fulness, and most of the time the heart acted strongly, though the first few days of the attack the beats were weak. For several days there was bilious diarrhœa, and a large bed-sore formed on the back. There was noticeable increase of splenic dulness.

The diagnosis, the non-effect of treatment, and the post-mortem are points of exceeding interest. The suggestions which entered my mind were, Is this a case of cerebral syphilis? Is it an abrupt development of typhoid fever after two weeks' incubation? Is it a pernicious form of malarial remittent fever? Is it a case of acute specific meningitis, or rapid development of syphilitic disease of blood-vessels or connective tissue in the nervous system? Cases of delirium considered to be of this nature have been reported, and cases not unlike that of our patient.*

The deficiency of pronounced localized symptoms, especially loss of function (paralysis), militated against this view, and yet the clonic spasm of the right arm, the clenched fingers, the pain on moving the right arm, the paresis of the buccinator muscle, had to be accorded their importance. I think no symptom of specific disease of the nervous system is more characteristic than a localized loss or perversion of functional activity, when this is not the direct result of obvious pressure or injury of nerves. Irregular paralysis of limbs on different sides of the body, for example, is characteristic, or even diminished functional activity. The suddenness of the onset favored this view; but when three days had elapsed and still no localized symptoms developed, this suggestion was positively discarded.

The temperature chart afforded the strongest argument against typhoid fever. It was not an ascending scale of higher evening temperature, nor was the elevation a sustained elevation. The most probable hypothesis seemed to be a malarial remittent fever, to which the temperature, the bilious diarrhœa, the slight splenic enlargement, the locality in which the patient lived (notoriously malarial), and the season of the year, seemed to point. Moreover, cases of this kind have come under my notice once or twice. One of the most remarkable was one in which similar symptoms had occurred in a gentleman of gouty diathesis, together with delirium. Much the same series of symptoms were present, only the delirium was less violent. Here, with much persuasion, the regular medical attendant was induced to give forty grains of quinine for two days, and a prompt recovery from all the symptoms ensued. Now note the effect of treatment in our case. As there was scanty evidence of remission, thirty grains of quinine were given in solution on the afternoon of the 20th; the morning of the 21st the temperature was not materially affected; for three days the same amount of quinine was given daily during the apparent remission, with similar results. The drug seemed to reduce the temperature but very slightly, but there was no general improvement in the symptoms. On the 24th and 26th twenty-five grains of quinine were given, and a notable reduction of temperature occurred, but death took place suddenly on the forenoon of the 27th. Small doses of calomel, also cream of tartar, were used occasionally. Counter-irritation to head and neck by means of blisters, and internally bromide of potassium, were all means which were efficiently used. Nourishment was supplied by the rectum and by the mouth, but without avail.

The post-mortem was made six hours after death, by Dr. Formad, microscopist to the hospital, and myself. The brain was examined minutely, and was found to be singularly free from morbid process. There was a slightly œdematous condition of the arachnoid, but not so much as was noted in a case of cancer of the liver, without cerebral symptoms, which was examined at the same time. The liver was natural in size and appearance, macroscopically and microscopically; the spleen was enlarged, weighed sixteen ounces, and was much congested. There was an old cystitis and pyelitis, which accounted satisfactorily for the small amount of albumen and pus in the urine. The cortical and medullary portions of the kidney were healthy, and microscopic study of these organs showed healthy tubules, with slight cloudy swelling of the epithelium. I mention this for your especial attention, as some idea that the symptoms indicated a uræmic condition may have suggested itself to some of you. Note that

* See A Contribution to our Knowledge of Syphilitic Diseases of the Nervous System, by Dr. H. C. Wood, American Journal of the Medical Sciences, October, 1880.

the respirations were thirty-two, the pupils were neither contracted nor dilated, the skin was moist, frequently the urine passed abundantly, and approximate estimation showed the amount of urea normal. These points always excluded uræmia.

To return to the autopsy, a solitary tuberculous ulcer was found in the ileum, probably from absorption of pus from the kidney. Lungs and heart were normal, save that old pleural adhesions were extensive.

Does it not appear that the vital powers had been reduced by the cystitis, and that the system was unable to rally under the malarial toxæmia? It is rare to note so pronounced and persistent brain-symptoms in malarial fever in this latitude: though frequent in Southern climates, here we do not look for them.

I have often seen somewhat similar cerebral symptoms in the course of cases of chronic alcoholism. Frequently have I felt inclined to diagnose meningitis, but have refrained on the grounds already stated. The teachings of this case can, however, be applied to many a clinical picture. I have thought the case might be valuable in teaching caution in making a diagnosis of cerebral irritation or inflammation. I would advise you never to commit yourself to a diagnosis of meningitis without first being satisfied that local symptoms exist; and, in view of the rarity of simple meningitis, remember to inquire for evidence of the prior existence of syphilis.

ORIGINAL COMMUNICATIONS.

HEMORRHAGE INCIDENT TO PARTURITION.

Read before the Philadelphia County Medical Society, October 13, 1880,

BY GEORGE HAMILTON, M.D.

NO untoward event so often attends labor as post-partum hemorrhage, nor does any other condition so frequently occasion anxiety and alarm in the accoucheur. The profuseness and celerity of the discharge will, in many cases, quickly reduce the woman to a condition that affords small hope of escape from the impending danger; and fortunate is he who, in a long practice, has not been compelled to witness his patient sinking quietly away, or frantic from an icy coldness that has seized upon every limb, or writhing in convulsion that has no end but in death. This tragic termination, fortunately, does not often occur; yet it not unfrequently happens that the physician is filled with solicitude as, from time to time, on examining the pulse, scarcely perceptible, beating sometimes very slowly, oftener very rapidly, he observes the blanched face, the pinched features, the increasing coldness of the extremities, with the distressing and irrepressible yawning and jactitation that usually attend such conditions. Yet even under these discouraging circumstances a majority of women, either from great tenacity of the vital principle, or by a prompt and judicious application of remedial measures, will escape a fatal issue.

That a condition so dangerous, or it may be fatal, and in character so well adapted to excite profound sympathy, in the fact that she who has just ushered an infant into life is now threatened with the loss of her own, should have engaged from time immemorial the thoughts and the pens of so many practitioners, is no matter for surprise. Yet, despite all that has been done with a view to the prevention or arrest of post-partum hemorrhage, it still remains the most prominent of the dangers incident to parturition. In this point of view it is most gratifying to observe that, for a short time past, renewed efforts in this direction have been, and are now, in progress for the discovery of some agent or measures more reliable than any heretofore devised to avert the dangers alluded to. In this connection we cannot but commend the action of Prof. Penrose in bringing before the Gynæcological Association, when last in session in this city, the subject of uterine hemorrhage. And, however we may be disposed to hesitate in adopting one or two of the measures proposed for the suppression of hemorrhage without a more extended trial being accorded them, it must still be admitted that the subject, involving as it does the lives of so many individuals, has a supreme importance, exceeding perhaps, with one possible exception, that of all others discussed in that session. In a paper read some time ago before the Philadelphia County Medical Society, by Dr. Charles T. Hunter, upon the use of hot water for the suppression of hemorrhage in surgical practice, allusion was incidentally made by the lecturer to the practice, lately recommended, of injecting the uterus with warm, or even

hot, water in case of post-partum hemorrhage. Bold, or even hazardous, as this procedure might at first view be regarded, cases are cited where the discharge was apparently by this means moderated or promptly arrested. More than forty years ago, through the medium of a nurse, I was told of a country physician who, when the usual treatment failed to arrest the hemorrhage, applied a folded napkin, heated nearly to scorching, over the region of the uterus, with the immediate cessation of the flow as the result, and this he declared was his uniform practice in similar cases. Where heat is applied to the cutaneous surface of such temperature as to cause the sensation of burning, a shivering or decided chill would, especially after cold applications, be likely to occur, just as we observe in cases of severe burning or scalding. The shock to the nervous system in this event is so powerful as nearly always to paralyze, to a considerable degree, the action of the heart and vascular system, as is made manifest by the state of the pulse in all similar conditions, whatever may be the cause. Whether one or the other of these methods of applying heat may be safely and advantageously employed for the suppression of hemorrhage must, of course, be determined by far more numerous trials than have hitherto been made.

The primary object of this paper is not, however, to enter upon the general subject of uterine hemorrhage, but to present for consideration a few thoughts regarding certain embarrassments sometimes encountered in the treatment of post-partum hemorrhage. This, as every practitioner will sooner or later discover, may be moderate and last a considerable time, yet without seriously endangering the life of the woman; whilst, on the other hand, it may be, as before said, fearfully profuse and rapid, destroying the patient in a very short time, or rendering her situation so critical that the accoucheur must remain for hours in anxious suspense, not exempt, perhaps, from sad forebodings that the apartment in which his patient lies is destined soon to become the chamber of death. A case in illustration was Mrs. B——, residing within one square of my present residence, to whom I was urgently called. She was about three weeks short of the full term, and, while seated at the supper-table, without pain or other premonition, she suddenly arose, rushed upstairs, and threw herself upon a bed. On ascending the stairs I noticed a good deal of blood upon them, and a deluge of blood had already escaped from the woman, passed through the bed and bedding, and lay in large amount upon the floor. The face of the woman was blanched, the pulse exceedingly frequent and feeble. On inquiry it appeared that in four or five other confinements nothing untoward had occurred. Slight pains began directly after she reached the bed; the os uteri was found to be already considerably dilated and relaxed. Cold applications, stimulus, and ergot were resorted to. The pains quickly increased, and in a short time the child was born, without apparent characteristic action of the ergot. The flow of blood after pain began, and until the child was born, was very slight, yet in such a case it was of serious importance; and, to add to the difficulty, the placenta was partially adherent, the uterus had not contracted, despite repeated doses of ergot, and occasional slight discharges continued. Believing that, unless the placenta was removed by the hand and the contraction of the uterus thereby effected, the woman must perish, that process was resorted to, and accomplished without difficulty. Yet, notwithstanding the facility of passing the hand into the womb, owing to the unusual relaxation of the parts, increased doubtless by the exhausted condition of the system, she resisted, as nearly always happens in such cases, and the consequence was, not a great, but a decided increase of the flow, though only for a moment or two. From this time the patient began to sink more rapidly; the limbs, especially the feet, legs, and knees, became intensely cold, so that she screamed with agony and violently upbraided two persons engaged actively in rubbing her limbs with heated cloths, and so continued to do until a short time before her departure.

Another case of somewhat similar character came under my care in the country. It was the second accouchement of a pale, anæmic young woman, residing about six miles from my location, and about the same distance from West Chester. The summons came at midnight, and the journey required about an hour. On entering the chamber, a woman in attendance said the child had been born an hour and a half before; that the labor was easy and of short duration, but that in a few moments after the birth

the woman had swooned, and with only partial returns of animation had so continued; and, furthermore, the after-birth had not come away. On examination, an amount of blood was seen to have passed from the uterus which, although not large for a strong woman, was sufficient to account for the prostrate condition of this patient. My presence and questions partly aroused the patient, and in whispers she said that very slight pains were felt from time to time, and a slight discharge followed each pain, but that the greatest loss of blood took place immediately after the birth of the child. The usual measures were at once adopted,—cold applications, stimulants, and ergot. As often happens after the child has passed from the uterus, the ergot failed to act, and, seeing no alternative other than to remove, if possible, the placenta, previously ascertained to be adherent, the hand was with some difficulty introduced, but failed to effect the purpose intended. The muscular resistance of the woman to this manual operation was so strong that, for the moment, an increased discharge occurred. After some delay and giving more stimulus she was induced to submit to another attempt to remove the placenta, but, partly in consequence of the strength of the adhesion, and partly from the embarrassment occasioned by her resistance, the effort again proved abortive. From this time the aspect of the case became more discouraging: her husband was therefore directed to mount a horse and summon, with all haste, Dr. Worthington or Dr. Thomas from West Chester; but before he was prepared to start, so sudden and decided a change took place as to manifest clearly that, if once upon the road, he would never again behold his companion alive. His departure was therefore countermanded, that he might be present to witness the last moments of his expiring wife, whose existence terminated in less than half an hour after he re-entered his humble dwelling.

These cases represent, probably, a majority of those which, under similar circumstances, terminate fatally. In the example first quoted, it was but a very few minutes from the moment the woman left the tea-table until I saw her, yet she was then nearly exhausted. In the second case the principal hemorrhage took place immediately after the birth of the child: so that both women were rendered nearly exsanguineous in a very short time; yet, had there been no further loss of blood, it is almost certain that both would have escaped with their lives. This, however, could scarcely be expected, for under the most favorable aspect of such conditions there will be more or less discharge; and the important question here presents, whether the manipulations resorted to were not contributing agencies to the loss of life. In reference to even slight discharges of blood after profuse hemorrhages, they must be regarded in the most serious light, and, in view of the wonderful conservative and recuperative power of the vital principle, it may well be asked, How far should the accoucheur go under the contingencies involved, and when should he avoid or desist from processes which occasion only in very small degree a further loss of blood?—for we are here to remember that it was the last pound that broke the camel's back. That the determination of a question of such gravity and importance should have so often been attempted in earlier and recent times without decided success is not surprising; nor, in fact, need we wonder at the variety or antagonism of opinions upon this subject, involved as it is in difficulties and contingencies of no ordinary character. In the cases and under the conditions presented, a large majority of practitioners would at the present day resort to an active mode of treatment, for this is in accord with the current teaching; and again, many might not, in case they anticipated the loss of the patient, be willing that she should depart otherwise than *secundum artem*; whilst a smaller number, more conservative in medical thought and practice, might, under similar conditions, prefer that her departure should be *secundum naturam*. To attempt to define the precise line of conduct to pursue in the emergency referred to, or to declare what should and what should not be done in the critical conditions in view, is not only impracticable but would be hazardous; for, however similar the general conditions of a large majority of such cases may appear, there will of necessity be modifying circumstances, and unless these be rightly and promptly appreciated we incur the risk of endangering the slight hold upon life the woman yet retains; for it is beyond question that in the crises alluded to the loss or the preservation of a few ounces

of blood may decide the fate of the patient. In view, then, of the danger the parturient woman is so often exposed to from hemorrhage, it is the duty of the practitioner faithfully to record every circumstance, however minute, occurring in the dangerous, but more especially in the fatal, cases he may have had in charge; for it is not by theory, but by gathering together and collating a numerous series of well-established facts regarding this subject, that a more successful mode of treatment can be arrived at.

In this connection reference may here be made to the actual doctrine and practice in regard to the delivery of the placenta in ordinary labor. As a rule, it is now recommended that little if any delay should be permitted before proceeding actively to the removal of the after-birth, so as to afford opportunity for contraction of the uterus, which, as is commonly said, cannot take place while the placenta remains undelivered, and the woman is thereby exposed to the danger of hemorrhage. The rule of action, and the propositions here announced, may be accepted in general terms; yet this mode of treatment, and the propositions on which it is founded, will very often be at fault, and do not accord with the views or experience of the most eminent authorities of earlier times. In my own experience it has very often happened that the placenta has remained in an uncontracted uterus many hours—on one occasion for thirty-six hours—without injurious result; and in not a few cases, where the placenta, either spontaneously or by active interference, was expelled promptly after the birth, the flow of blood still continued until the patient was greatly exhausted, and in these cases it is probable the blood issued from one or more vessels of preternatural size. In regard to the relaxation and rising of the uterus after it has contracted well, we have not, as a rule, observed much increase in the flow, especially if the previous discharge has been moderate; where the reverse has occurred, it has nearly always been in women of a constitutional predisposition to hemorrhage. In every instance where the uterus rises towards the abdominal region a careful local examination should be made, and attention given to the pulse, to ascertain whether the case is one of concealed hemorrhage or one of mere relaxation.

When called, for the first time, to a woman in labor, it is best, in order to prepare for an emergency, to inquire whether, in previous labors, she habitually or occasionally suffered from great loss of blood; and whether this had occurred before or directly after the expulsion of the placenta or, again, as may happen, not until an hour or two afterwards: in the latter case the accoucheur should remain at least a corresponding length of time, that prompt aid may be given if required. The difference between women, in regard to their ability to support great loss of blood, varies immensely, and cannot always be determined by the ordinary external signs of fulness of blood and strength. In the earlier days of my practice in the country (and those were the days of venesection), when the city physician often, and the country physician always, had to perform the operation, it frequently happened that the robust, ruddy-faced farmer or laborer would show symptoms of faintness before ten ounces of blood had been drawn, whilst a meagre-looking, pale-faced man or woman would bear the loss of fourteen to sixteen ounces without inconvenience. The same thing occurs in obstetric practice: so that the hemorrhage which would endanger or destroy the life of one woman might be borne perfectly well by another of no apparent greater physical strength.

ANTHRACÆMIA—WOOL-SORTER'S DISEASE.

Read before the Philadelphia County Medical Society, October 13, 1880,

BY WILLIAM R. D. BLACKWOOD, M.D.,
Attending Physician to St. Mary's Hospital.

FOR several years past the attention of our professional friends in England has been attracted to a serious form of sickness prevailing to a considerable degree among operatives employed in woollen-mills, the study of which has notably been made a point by Dr. Bell and gentlemen practising near Bradford. Some months ago a committee was appointed by the Medico-Chirurgical Society of that city to investigate the matter, and recently four typical cases have been reported in which the result of post-mortem examination leaves no room seemingly for doubt as to the existence of this peculiar affection, and that in all probability it is due to blood-poisoning by the so-called *Bacillus anthracis*, a low form of bacteria, pre-

sumably contaminating the wool, and which gains entrance to the blood of those affected through the likeliest channels,—the lungs or stomach. Wool from which yarn of varying character is made, and which is used in whole or in part in the production of a long line of textile fabrics, is gathered from the ends of the earth, and when received is frequently very dirty, the Continental grades being especially impure. The ordinary method of sheep-washing previous to shearing is more of a habit than a success, and consequently, before the process of manufacture into yarn, wool has to be thoroughly scoured after reception at the mills, either by hand or by machinery. The impurities found in the fleece consist largely of earthy or vegetable matter, depending on the nature of the pasturage and shelter of the flock; but there is also at times animal matter,—the "tick," for example,—with scales or scabs from the epidermis of the sheep, together with more or less oily material. Diseased sheep or goats may be rejected as unfit for food, but the wool or hair is all the same secured for market. Now, before scouring the wool is "sorted" into long or short fibre, fine or coarse, etc., quality of stock determining largely the ultimate product. This is done by hand in well-lighted rooms which are kept at a high temperature, especially in the cooler months, and it is here that the majority of cases of anthracæmia originate; but some have happened in operatives exposed only in departments after the material has been scoured, in which condition it is usually clean and white. A much better method is being tried, by which before sorting the wool is treated with benzine, which not only cleans it of dirt but also must destroy all bacteria. The caution requisite in this process and the high insurance unfortunately operate against the plan, but time and necessity will doubtless remedy these disadvantages.

The symptoms so far recognized are violent cephalalgia, often unilateral, fever intensifying in its progress, severe pleuritic pain, crepitant inspiratory rales, and finally free diarrhœa. The differential diagnosis between anthracæmia and typhoid fever is clear, and ordinary care only is requisite to distinguish them. Cases have been complicated with malignant pustule from inoculation by scratching pimples or abrasions, especially about the face, and in such instances the neighboring lymphatics have become greatly enlarged. The prognosis is bad, and treatment is, as yet, apparently unsettled.

Post-mortem investigation shows softening of the bronchial glands and large accumulation of fluid in the pleural cavity particularly, but also in the abdominal. The intestines, beyond injection and low inflammatory signs, give no evidence. The glands of Peyer are not softened or ulcerated. *Bacillus* is abundant in the fluids of the closed cavities, in the viscera, and in the blood. Inoculation of blood containing this form of bacteria in the lower animals, as tested in the mouse, rabbit, and guinea-pig, produces the disease, death supervening in from thirty-six to seventy-two hours. Decomposition is rapid, especially at the site of puncture in the case of inoculation.

My attention was called to this subject from having during the summer treated two obscure cases of illness in wool-sorters resembling very much the affection described, and which, though they recovered, induce me to refer to them with a view to further investigation by gentlemen of the Society who may have an interest in the subject. Their sickness was precisely as above described. The period of incubation, so far as known, was about ten days, the acute duration two weeks, and as much more time for convalescence was required. The treatment was expectant,—large doses of cinchonidia sulphate for the bronchial disorder; opium and carbolic acid for the diarrhœa; tincture of iodine painted externally for the pleuritic pain. There was no tendency to a relapse. Another patient (a driver), who handled bales of wool continually, succumbed after leaving my care from what was certified as phthisis, but which very likely was anthracæmia. Under the circumstances, I was debarred from suggesting a post-mortem. Through the courtesy of my brother, Mr. James D. Blackwood, who is engaged in the manufacture of woollen and worsted yarn, I have examined a great variety of wool, domestic and imported, and also the residue left after scouring. The high temperature and caustic soaps and alkalies employed in washing destroy all traces of bacteria, if they exist in the wool before undergoing that process, and, although cold water in which wool has been thoroughly soaked frequently contains

these organisms, I am not yet satisfied as to the origin of them, neither have I been able to obtain accurate information as to the *Bacillus anthracis* other than from allusions to it in the English medical journals, but I hope to be better posted shortly through friends who are interested in the subject in England. I learn from my brother that, aside from domestic supply in our city, foreign wool is imported only of English growth and from Australia, all of which being comparatively clean may account for the non-appearance of anthracæmia in this country as yet. The supply from Persia, Algiers, and Barbary is exceedingly foul, but to his knowledge is unknown in America, although large quantities of these grades are handled abroad. In view, however, of the extent and increasing business in woollen production in this country, and the probable development of this disease as a sequence through a greater demand for foreign material, it becomes our duty and our interest to unravel any entanglement which may confound anthracæmia with obscure disorders in those exposed thereto, and isolate this intruder if it be an entity, in preference to looking upon anomalous diseases in these people as hybrid,—a condition which I for one do not believe exists in pathology.

246 North Twentieth Street.

A SPORADIC CASE OF HOSPITAL GANGRENE.

BY J. H. POOLEY, M.D.,

Lecturer on Surgery in the Columbus (Ohio) Medical College.

AUGUST 12, 1880, I was asked by Dr. Schueller to see in consultation with him F. B., a boy aged 10 years, who a short time before had received an injury from the wheel of a street-car passing over his right foot; and as the injury was a severe one, and the case involved grave responsibility, the doctor was good enough to ask my co-operation in the treatment, so that I had the opportunity of carefully observing it throughout.

The wound, which was a deep and much lacerated one, passed along the inner border of the foot from the toes to the heel, almost in a straight line. The skin and soft parts generally were extensively dissected from the sole of the foot, and the metatarsal bones comminuted to some extent. About the ankle the integument was superficially torn, and turned back to the extent of about two inches; the joint was entirely uninjured. There was but little hemorrhage. After careful examination, an attempt to save the foot was deemed feasible. The wound was carefully cleansed, some loose pieces of bone removed, and the edges brought together loosely by a few points of interrupted suture. To forestall inflammation, we made use of Petigaud's mediate irrigation, by means of the india-rubber coil, through which cool water was passed, the foot being protected from too great an impression of cold by means of a roller bandage. All went on very well at first; inflammation was kept down, and the patient had little pain. After three or four days, however, it was evident that considerable sloughing was going on; the apparatus was removed, and warm lotions of carbolic acid were substituted, to favor the separation of the sloughs. But the gangrene spread, not only in the deeper portions of the wound, where it had the ordinary appearance of mortification after injury, but also in that superficial wound over the ankle, already alluded to, where it had the appearance of hospital gangrene, a thing I had not seen since our late war, now sixteen years ago.

The surface was covered over with a light-grayish, tenacious, greasy-looking deposit, which could not be washed or wiped away. The edges were thickened, infiltrated, and somewhat everted. The boy had a good deal of pain, at times very severe. The pulse was frequent, 120; there was irregular fever, with profuse perspiration and utter loss of appetite; tongue much furred; obstinate constipation.

It was now pretty evident that the attempt to save the foot would be useless, if not hazardous, and with the concurrence of Dr. Wirth, who was called in consultation, the leg was amputated a short distance above the ankle, by the circular method, on Saturday, August 21.

The next morning I found the stump painful, swollen, the edges everted and pouting between the sutures, and covered with a whitish-gray film of exudation. The discharge was thin, ichorous, rather free, and of a peculiar, penetrating odor. The boy had had a bad night, and his condition was the same as before the operation.

The stitches were removed, and the whole interior seen to be covered with the partly whitish exudation already described. Strong carbolic acid lotion was applied to the stump, the interior of which was syringed out with the same.

Quinine, iron, and stimulants, which the patient had already been ordered, were continued.

The gangrene continued for several days, the exudation appearing to increase in density, and numerous sloughs of connective tissue came away. The skin remained unimplicated throughout. A strong alcoholic lotion, with carbolic acid, was now ordered, and almost

at once a change for the better was discernible; healthy granulations began to spring up; the remaining sloughs were cast off, and in a week we were able to begin to close the stump with adhesive straps, and it healed very rapidly, together with which the general health of the patient improved, so that in three weeks he was able to go out.

The disease of which this is a sporadic example is very rarely seen except in an epidemic or endemic form, so that I have thought it well worthy of record and preservation.

The name hospital gangrene, by which it is best known, is certainly inapplicable to such a case, nor is it easy to find in its somewhat extensive synonymy a designation that is perfectly unexceptionable. It has been called gangræna contagiosa, phagedæna gangrænosa, gangræna nosocomialis, putrid ulcer, pulpy gangrene, pourriture d'hôpital, hospital brand, putrid degeneration, traumatic typhus, and diphtheria of wounds.

Of these names the most misleading is sloughing phagedæna, as I believe it to be entirely distinct from phagedæna, though resembling it in some of its features. The term diphtheria of wounds is also objectionable, as tending to confound this disease with another well-known constitutional affection. It is, however, a favorite designation with the Germans, and by them is often very loosely applied. Hospital gangrene in its epidemic forms is both infectious and contagious: whether in our case it was so or not, fortunately there were no means of deciding. It has been said that sporadic cases are owing to some peculiar defect of constitution in the patient, but, so far as we can tell, this boy was in perfect health at the time of his injury; and also that they are more apt to occur during the prevalence of erysipelas, scarlatina, diphtheria, etc., but, so far as I know, no disease of the kind was prevailing here at the time.

That this was really a case of hospital gangrene seems evident, I think, from the following considerations: the suddenness with which it made its appearance in the stump after amputation; the operation was done through healthy tissue, so that, although there was purulent infiltration just below, the fine, healthy appearance of the muscles at the point of amputation was a matter of remark to us at the time. And yet the next morning, less than twenty-four hours afterwards, we find the disease fully set in in the stump. This is very characteristic, and, together with the peculiar deposit alluded to, and the general *ensemble* of symptoms, settles the diagnosis. The case was indeed very mild, far different from the terrific and rapidly-destructive course of the epidemic form; but this mildness of sporadic cases has before been commented on.

The peculiar diphtheroid deposit of this disease bears, after all, but a feeble resemblance to that of true diphtheria, lacking altogether its thickness, tenacity, and capability of being detached in plates or extensive pieces.

It consists, according to Dr. W. Thomson, who examined it microscopically, mainly of fluid granular matter and débris; no evidence of textural growth was found in it, and no organisms. According to Professor Joseph Jones, and some German observers, both animal and vegetable organisms have been found, but there is no sufficient reason for believing that they have any causal relations to the disease. To illustrate the rarity of sporadic hospital gangrene, I have collected the following statements from various writers, which I present with the remark that the majority of the authorities examined say nothing about it.

Agnew says (Surgery, vol. i. p. 139), "It may prevail in two forms, the endemic and the sporadic. In the second, the disease appears to be confined to isolated cases and sores of a specific nature, as chancre and open cancer" (which is true of phagedæna, but not of hospital gangrene, properly so called). Spence speaks of it (Lectures, vol. i. p. 68) as gray pultaceous phagedæna, and says, "Occasionally we meet with sporadic cases, depending either on some unhealthy tendency in the individual, want of cleanliness, or from improper, irritating dressings having been used, most likely from a combination of all these conditions; but by far the largest number and best-marked cases arise either from endemic or epidemic influences." Miller says (Principles of Surgery, p. 345), "It seems to have been known and described by the old writers, as Aetius, Paulus, and Avicenna, but was not noticed prominently and distinctly until the end of the last century and beginning of the present." He makes no reference to its sporadic occurrence. Erichsen (Surgery, vol. i. p. 580) says it is rarely met with in its fullest

extent, except in military practice, and makes no mention of sporadic cases. Gant says (Surgery, p. 216), "Hospital gangrene is fortunately known to but few surgeons in civil practice now living; and we must refer to those of the past for information." Bryant says (Surgery, p. 436), "In its sporadic form it seems especially to affect the subjects of septic or pyemic disease, and perhaps the existence of certain conditions of the secretions inclined to coagulation may favor its production." Ashhurst says (Surgery, p. 392), "This affection is occasionally met with as a sporadic disease, but has attracted most attention when prevailing epidemically or endemically in hospitals, especially when large numbers of wounded men are crowded together, as in military hospitals in the neighborhood of a battle-field." Fergusson says (Practical Surgery, p. 99), "Such a disease as that once familiarly known under the name of hospital gangrene is now rarely seen, although from time to time, both in hospitals and in private, cases are met with which resemble in many respects those of former years."

THE MODE OF PRODUCTION OF ARTERIAL HYPERTROPHY AND ATHEROMA IN BRIGHT'S DISEASE AND ALLIED CONDITIONS.

BY JOHN S. WOODSIDE, M.D.,

Assistant Physician King's County Insane Asylum, Flatbush, L.I.

I HAVE had the subject-matter of this paper under consideration for the past year, while studying Bright's disease as it occurs among the insane, and have arrived at conclusions in regard to the production of the hypertrophy similar to those advocated by Da Costa and Longstreth in their valuable and original investigations into the "state of the ganglionic centres in Bright's disease."*

It is for the purpose of supporting their views, and of further disseminating and elucidating the subject, that the following remarks are offered. They "point out the causal relations which they believe the muscular hypertrophy of the vessels has to the alterations found in the ganglia," and they arrive at two chief factors of irritation which bring about the hypertrophy:

First, that "the cause may be of such a nature that it operates through the general nervous system, for it is a well-ascertained fact that grief and sorrow and nervous depression are potent sources of Bright's disease, especially of the contracting kidney." Enough stress has not been laid on the frequency, extent, and etiological power of this psychological irritation. It is corroborated and beautifully exemplified among the insane, particularly in chronic cases. Out of about fifty autopsies made at this asylum during the past two years, only three or four had what would be pronounced healthy kidneys. The arterial changes, however, were always well marked, even when but a slight amount of renal disease was present. In going through the wards of any asylum, it is interesting to note how many of the cases present the full, tense pulse, giving that peculiar resistance to the finger which indicates thickening of the arterial coats and general vascular changes.

Secondly, "the disturbance may come through the blood, for the nutrient fluid supplying the renal plexus, if altered, will produce a condition of irritation of the ganglionic cells, with subsequent tissue-changes alike in the ganglia and in the kidneys, and give rise to the phenomena of intestinal nephritis,—hyperplasia of the connective tissue and hypertrophy of the vessels." (Da Costa and Longstreth.)

Dr. George Johnston, who was the first to elucidate, and who continues to defend, the fact that cardiac and arterial hypertrophy invariably follow chronic kidney disease, explains the mode of its production by reflex action, and likens the "excessive arterial contraction excited by an abnormal quality of blood, as analogous to spasm of the glottis provoked by an irritating gas or foreign body in the larynx." This is not a good parallelism, however, as the reflex is undoubtedly through the sympathetic, and, like all sympathetic reflexes, slow and persistent in character, and unlike the quick, transient cerebro-spinal reflex exhibited by the glottis.

The character of the sympathetic reflex is best exemplified by the movements of the pupil. In going from darkness to a brilliantly-lighted room, it is some time before the irritation carried by the optics to the corpora quadrigemina, and reflected along the oculo-motorius to the ophthalmic ganglion, and thence by the ciliary nerves

* American Journal of the Medical Sciences, July, 1880.

to produce the requisite contraction of the pupil, takes place; but when the contraction is complete, *it remains so until the provoking stimulus is removed.* So it is with the arterial reflex which I am about to describe.

Gull and Sutton deny the hypertrophy of the muscular coat, and describe a condition of the vessels which they designate "arterio-capillary fibrosis," and express their belief that the "cardio-vascular changes and renal degeneration are the result of this morbid state, which is allied to senile degeneration," considering Johnston's hypertrophy "a hyalin-fibroid change."* The weight of further investigation goes to support Johnston's observations in the main, yet undoubtedly demonstrating secondary changes in the surrounding connective tissues.

The following I take to be Da Costa and Longstreth's theory, *in extenso*, which harmonizes the above facts, and renders clear the sequence of events which commences with blood-deterioration and winds up with vascular transformations and connective-tissue degenerations.

The action of the intracardial ganglia and the intestinal gangliated plexuses of Auerbach and Meissner is now well understood. Vulpian, Hénocque, Klebs, and Arnold agree in the following analogous mode of termination of the vaso-motor nerves in the arteries: a fundamental plexus distributed outside the external tunic; an intermediate plexus situated in the external tunic, and composed of filaments from the fundamental plexus; an intermuscular plexus, excessively delicate, which comes from the intermediate plexus, and which terminates in punctiform enlargements, sometimes in the nucleus, sometimes in the fibre, and sometimes in the interstices between the fibre-cells. Small ganglia are found on all of these plexuses, particularly at the bifurcations and points of anastomosis, and, also, nodular enlargements are found in the course of the finest filaments.

The efferent fibres of these minute ganglia which are distributed to the intima, being irritated by the passing impurities, carry an excessive amount of stimulation to the ganglia just described, which causes them to evolve and transmit an excessive amount of nervous energy by their efferent fibres to the muscular coat, causing a *persistent* contraction and consequent obstruction of the blood-current; this in turn calls forth increased cardiac action with its resultant hypertrophy. The irritation continuing, contraction is sustained, giving rise to the arterial hypertrophy, and interfering with the blood-supply of the vasa vasorum to the intima, which consequently undergoes fatty degeneration or atheroma. This, in turn, spreading from the larger arteries to the arterioles, and finally to the capillaries, interferes with the normal supply of nutriment to the tissues, as well as with the reception of the waste nitrogenous matters. This condition continuing for weeks and months leaves the body cachectic, and a fit nidus for general somatic degenerations, which are most likely to occur in the connective-tissue elements. The irritated ganglia undergo granular degeneration, with hyperplasia of their connective tissue.

* See Transactions of the London Pathological Society.

GLYCYRRHIZA AS A CORRIGENT.

BY E. T. BLACKWELL, M.D.

THE taste of common liquorice is very agreeable to a considerable portion of the human race. The stick is greedily devoured by children, while the juice in many countries is a favorite drink. Its quality of correcting unpleasant medicines has been utilized somewhat, but its usefulness in this particular may be greatly extended. The fluid extract masks so completely the cinchona salts as to render them acceptable to children and other persons of fastidious taste. A very limited amount of acid only is allowable to facilitate the solution of the salt, as any excess precipitates the glycyrrhizin. Made carefully and lightly shaken, it forms a very good mixture.

The fluid extract may be included in a multitude of combinations, embracing solutions of morphine and chloral, as also diarrhœal and cough mixtures, tonics, etc. An example or two may suffice:

℞ Ext. rhamni purshianæ fl.,
Ext. glycyrrhizæ fl., āā ℥ij;
Aq., ℥j.—M.

S.—A teaspoonful to be given at night, to be repeated p. r. n.

℞ Chloralis, ℥ss;
Ext. glycyrrhizæ fl., ℥ij;
Aq., ℥iss.—M.

S.—Give a teaspoonful, and repeat p. r. n.

A remedy of extended popularity is the pulvis glycyrrhizæ compositus of the Prussian Pharmacopœia. The formula is exhibited to show the proportion of each ingredient in a teaspoonful, the usual dose prescribed:

Pulv. Glycyrrhizæ Comp., Pr.

	In each teaspoonful.
℞ Glycyrrhizæ pulv.,	6 grains;
Sennæ pulv., āā ʒj,	6 "
Sulphur. loti,	3 "
Fœniculi pulv., āā ʒss,	3 "
Sacchari albi, ʒiij,	18 "
M.	—

Amount, 36 grains,—containing 9 grains of laxative and 27 grains of excipient, a proportion of 1 to 3.

This prescription is faulty not only in that it is weak in laxative power, but because of the very great amount of sugar, which increases fermentation in sour stomachs, rendering it very objectionable in many cases. Its form is inexact, because an article affecting the combination as a corrigent is taken from its legitimate place, at the foot of the formula, and placed at its head. That it should give name to the medicine is absurd, for the same reason.

The British form, which omits the sulphur and fennel, perpetuates the misnomer, notwithstanding it degrades the naming article from the head of the recipe, which is here displayed for the reason already given:

Pulv. Glycyrrhizæ Comp., Br.

	In each teaspoonful.
℞ Sennæ pulv.,	8 grains;
Glycyrrhizæ pulv., āā ʒij,	8 "
Sacch. alb., ʒvj,	24 "
M.	—

Whole amount, 40 grains,—laxative matter 8 grains, excipient 32 grains, or a proportion of 1 to 4.

The following scheme, in which the remedial drugs occupy the leading place and the corrigents and demulcents their appropriate relation and amount, I propose, with the name of pulvis sennæ compositus, as a substitute for the forementioned. The benefit of alliteration is used to aid the memory:

	In each teaspoonful.
℞ Sennæ pulv.,	8 grains;
Sulphur. loti,	8 "
Sacchari albi, āā ʒss,	8 "
Fœniculi pulv.,	4 "
Glycyrrhizæ pulv., āā ʒij,	4 "
M.	—

In all, 32 grains,—laxative 16 grains, excipient 16 grains,—an equal proportion.

No one will question, I think, the improvement in bringing the quantity of sulphur to equal that of the senna, which it so much surpasses as a laxative. Nor does it prove less acceptable to the taste, while it is better tolerated by the stomach.

NOTES OF HOSPITAL PRACTICE.

PENNSYLVANIA HOSPITAL.

CLINICAL SERVICE OF R. J. LEVIS, M.D.

Reported by CHAS. H. WILLITS, M.D.

NOTES OF A CASE OF TRAUMATIC HERNIA THROUGH THE DIAPHRAGM—CASE OF FRACTURE OF VERTEBRÆ, WITH TREATMENT AND GENERAL REMARKS.

GENTLEMEN,—The following history, kindly furnished by Dr. Croll, resident surgeon, is one of great interest and rarity:

C. L., a German, 37 years old, was brought to this hospital about 3 A.M. He was injured in a sugar refinery by a bar of iron eighteen inches long and five pounds in weight, which had been violently hurled from a centrifugal machine, striking him. His condition was low, skin cold and clammy, pulse feeble and accelerated. His respirations were short, shallow, and frequent, and accompanied by a "wind-and-water" sound, and by the expulsion of frothy blood from the wound. His temperature was ninety-seven and two-fifths, and he was very restless, evidently suffering considerable pain.

Upon examination, a wound, four inches long, in the left infra-mammary region was found, through which a mass of omentum, the size of a man's fist, protruded.

Further examination revealed a fracture of the seventh and eighth ribs and a lacerated wound of the diaphragm two and a half inches long, about one inch from its origin from the chest-wall, and almost parallel with it.

If the fingers were placed in the wound, the heart could be felt beating.

The omentum was returned, and the external wound closed by adhesive straps, allowing for free drainage at the dependent part.

Beef-tea and milk-punch were ordered, one-quarter of a grain of morphia was given hypodermically, and hot applications, as bottles of hot water, and blankets, were placed around him.

The man's condition being no worse at noon of the same day, I decided to stitch up the wound in the diaphragm, which I did with fine silver sutures, the ends of which were brought through the external wound. This latter itself was stitched, and drainage and dressing of carbolized lint used as before.

The patient was more or less restless throughout the day, and considerable frothy blood passed away. His condition remained about the same until evening, when there was a change for the worse, his pulse and respiration becoming more feeble and frequent.

His restlessness was controlled by morphia, and his stimulants increased, but, notwithstanding all care, he died about 11 P.M.

A post-mortem examination showed, in addition to the above, a lacerated wound one inch long, in the extreme lower edge of the lung, with several small, superficial patches of collapsed lung in the posterior part of the lower lobe, and also about one pint of frothy blood in the pleural cavity.

I shall now bring before you one of those grave cases often met with in this hospital, which are peculiarly liable to occur in the mining-regions. I refer to fracture of the vertebræ.

Fracture of the spine is due, as in fracture of other bones, *first*, to *direct violence*, as a fall directly upon the vertebræ, or in the case of a heavy weight, as a wagon-wheel or heavy brick wall, acting upon the seat of injury; *secondly*, to *indirect violence*, as when a man falls from a height upon his feet, the force necessary for the fracture being communicated through the limbs, or, when he falls upon his head, the force being transmitted through the column itself.

Another factor that should always be remembered in these cases is, that the spine may be broken through *extreme flexion*.

A good example of this is found in the case of a man working in a well, in a necessarily bent position. If at such a time the wall should fall in upon him, the chest would be forced down upon his knees, and the vertebræ so forcibly flexed as to bring about fracture.

The spinal column may be broken in any of its parts, either through the bodies of the vertebræ, their spines, or their arches. Perhaps the most common seat is the arches.

The gravity of the injury is due to the violence done to the contained substance, the spinal cord, and the cutting off of the nervous supply to important organs. Thus, a fracture as high up as the third cervical vertebra is excessively grave, involving as it does the phrenic nerve, the great motor nerve of the diaphragm.

The most common seat of fractures of the spine, I may say, is between the last dorsal and the first lumbar vertebra.

I have said that extreme flexion is an important factor in this injury; and, as the point of greatest anterior flexibility of the column is near the last dorsal vertebra, you can see in this a reason for the frequency of fracture at that point.

I would say here that, owing to the peculiar manner in which the vertebræ are articulated, there being so much interlocking, dislocation without fracture can hardly exist.

In most cases of fracture of the spine you have general paralysis below the point of injury; thus, if at the last dorsal, it would interfere with respiration somewhat by paralyzing the muscles of the abdomen, and would also, lower down, involve the bladder and rectum.

This last symptom is a most important diagnostic point, no matter at what point the fracture may exist.

As a rule, there is retention of the urine for the first few days, followed by constant dribbling, and usually, also, constipation, succeeded by involuntary evacuation of fæces.

In regard to treatment, there is scarcely any mechanical treatment possible. Of course, if you could readily determine any displacement of the fragments, you would be justified in using some means, as extension and counter-extension, to remove it; but this is scarcely ever needed.

Our attention should rather be directed to the secondary symptoms, such as the

results of the paralysis of the bladder and rectum, than to the primary lesion.

The first, and I think the most important, point requiring remembrance is the fact that these patients incur great danger from the formation of bed-sores, resulting either from pressure upon prominent parts of the body, as the nates, calves, and heels, or from the irritation of the constantly dribbling urine.

This condition, when present, you will find exceedingly troublesome to cure, as well as very dangerous to the patient.

The avoidance of this complication can be best accomplished by the use of the water-bed, if that commodity can be possibly obtained. This, you will find, will equalize the pressure and adjust itself nicely to all the curvatures and irregularities of the body.

Of course, such a convenience, which, you know, is merely a rubber sack filled with water, cannot always be readily obtained; if such be the case, a good substitute can be made with a simple wooden trough, large enough to admit the whole body, and filled with water, over which is stretched a rubber cloth.

In directing your attention to the bladder, you will not only be obliged to draw off the urine, but, as it often becomes highly phosphatic, or even putrid, it is a good plan after the bladder is emptied to wash it out thoroughly with a saturated solution of boracic acid, or a weak solution of carbolic acid.

Our patient, whom I now bring before you, was working at the elevated railroad, where a heavy wall fell upon him, producing a manifest fracture of the spine.

The bone thought to be broken is in the lower dorsal region; but we will not disturb our patient with further investigation.

His symptoms are the usual ones, namely, total paralysis up to the point of lesion, pain and redness at that point, involuntary evacuations, and incontinence of urine.

You see he is floated upon the all-important water-bed, thus guarding all salient points from pressure, and a vessel is kept constantly in position to catch the dribbling urine.

This, with attention to his diet and cleanliness, will make our patient as comfortable as his condition will admit.

TRANSLATIONS.

PHYSIOLOGICAL ACTION OF PILOCARPIN.—Dr. Albertoni publishes an elaborate essay on this subject in the *Giornale la Saluta*. He first speaks of the general effects of the drug, giving the account of an experiment made by a Dr. Wontonini, who says,—

"I took sixteen grammes of jaborandi leaves in two hundred grammes of water, the infusion being yet warm. I was suffering from an attack of acute rheumatism. Just one minute after having taken the infusion, which I took in a single dose, I felt my skin covered with a profuse perspiration.

"While I was sweating profusely, my salivation commenced, with at the same time great difficulty of respiration. At this period vomiting came on, and I rejected a great part of the infusion. After this attack of vomiting I did not feel relieved, and still experienced the desire to vomit.

"The salivation and perspiration continued, so that I felt as if I were surrounded by a zone of steam.

"Half an hour after the ingestion of the medicine I was the subject of hallucinations. Looking at a single candle with a single flame, it appeared to me as if composed of *seven* or *eight* different flames, each being of much greater dimensions than the original.

"At times I imagined myself attacked by wolves and bears, and heard also, as if at a remote distance, sounds resembling those heard on a battle-field. These phenomena lasted for three hours, during which I felt very near death. My rheumatism persisted notwithstanding my tremendous sweating."

On Dogs.—In dogs poisoned with pilocarpin the respiration, at the beginning not modified, grows less frequent and more difficult, and a great degree of dyspnœa may supervene. With the occurrence of dyspnœa the pupil, until then contracted, dilates. Death is preceded by muscular tremors or generally by paralysis,—more rarely by convulsions or loss of sensibility or of consciousness. Death occurs ten hours or longer after the hypodermic injection of the largest lethal dose.

The fatal dose is one centigramme for each kilogramme of body-weight.

Action on the Nervous System.—The pilocarpin has not a direct influence on the encephalon. The cephalalgia and the mental depression are to be largely attributed to the vomiting, salivation, and vascular modification.

In a dog some moments before death attacks of convulsions were noticed, particularly tonic cramps of the limbs. But, as the heart's action was very feeble and the brachial pulse could not be felt, it was inferred that the convulsions were due to anæmia. And these convulsions were almost always present when the medicine was injected in a vein. Also, therapeutic doses produce modification in the cerebral circulation. As an example the following may be cited. In an old dog weighing eight kilogrammes, Dr. Albertoni exposed the circulation in the right temporal region, and then injected into the animal fifteen milligrammes of the salt. Five minutes passed, when saliva commenced to flow, and then the cerebral cortex became more and more rosy and the vessels larger. After a quarter of an hour the hyperæmia vanished and anæmia took its place. The cardiac action then greatly diminished, becoming feebler and feebler at every moment. When emesis commenced the anæmia became more prominent. We can see from this that the mental depression is due to anæmia of the encephalon. In warm-blooded animals, as well as in cold-blooded, if a large dose of pilocarpin was administered a diminution of excitability of the motor nerves and an irritability of the striated muscular fibres were witnessed.

Circulatory System.—Colland and Rabow assert that the injection of one or two centigrammes after the lapse of two or three minutes produces in man an increase in the pulse-rate of ten to thirty beats per minute, diminishing the arterial pressure. Later, when the flush is replaced by pallor, the frequency of the pulse is still less. Leyden affirms that in man a medicinal dose dilates the arteries and veins, the pulse becoming more frequent and stronger, and dicrotic and subdicrotic. The sphygmograph shows, as demonstrated by Kahler and Seyka, that jaborandi produces stasis of the blood-vessels. By small doses of the medicine augmentation of the frequency of the pulse and a moderate lessening of arterial pressure are obtained; by somewhat larger doses, diminution of the pulse-rate to thirty or thirty-two pulsations per minute and moderate augmentation of the arterial pressure; by still larger doses, diminution of arterial pressure and retardation of the pulse-rate to eight or ten beats per minute. This is attributed by Leyden to the stimulation by the drug of the intracordiac fibres of the pneumogastric, and not to stimulation of the heart itself.

In Dr. Albertoni's experiments, retardation of the pulse was more prominent in dogs than in cats and rabbits. There are two stages capable of notation in the dog's pulse after the injection of pilocarpin,—first, acceleration; secondly, retardation. With medicinal doses the retardation of the pulse is slight, with fatal doses it is great and persistent.

In all his experiments Dr. Albertoni found that pilocarpin reduces the arterial pressure, which is due to anæmic irritation of the nervous centres, explained by the destitution of blood in them. The action of pilocarpin is not confined to the heart alone, but is extended to all the circulatory system. When in the frog the lymphatic ganglia are examined, they are found to be affected *pari passu* with the circulatory apparatus. The primary acceleration of the pulse is partly due to stimulation of the excito-motor apparatus of the heart.

Respiration.—Acceleration of respiration always takes place when a fatal dose of the drug is injected. *Pari passu* with the retardation of the pulse respiration augments in acceleration, reaching the point of intense dyspnœa, which ceases with the last movement of death. Such dyspnœa depends,—first, on the influence of the circulation; secondly, on the accumulation of secretion in the respiratory tract; and, thirdly, on œdema of the organs of respiration.

Temperature.—In man, in medicinal doses, in the second stage, and after the profuse perspiration, a slight lowering of temperature occurs, and this persists until death.

Secretion. — The salivary glands are greatly affected by the drug. Dr. Albertoni found that one centigramme of the pure alkaloid augmented greatly the secretion during the first hour. After this the secretion diminished, but lasted for nearly two hours. The quantity secreted in that time was from two hundred and ten to two hundred and eighty grammes,

being neutral and containing sulphocyanuria.

Lewin asserts that in his recent experiments, 0.015 gr. of pilocarpin excited two hundred and eighty cubic centimetres of secretion.

A larger dose excites a less quantity of saliva, but much more dense, and especially so when vomiting supervenes together with diarrhœa.

Like Langley and Nawrocki, Dr. Albertoni observed that pilocarpin produces, just after the destruction of the secretory nerves, a copious salivation of the submaxillary glands. It appears probable that salivation depends upon excitation of the glandular secretory nerve-endings.

Dr. Albertoni repeated the experiments of Luchsinger and Nawrocki in cats and dogs, consisting in the section of the sciatic nerve, and after the operation a profuse sweating of the corresponding leg occurred.

In new-born cats pilocarpin produces salivation, but not perspiration.

Antagonism and Antidotism of Pilocarpin and Atropin.—Dr. Albertoni's experiments prove that an animal to which a fatal dose of jaborandi has been given may be saved by the proper administration of atropin. I administered both hypodermically, and when the retardation of the pulse had reached its maximum. A few minutes only were necessary to bring the pulse from twenty or twenty-five to one hundred, and the vomiting and diarrhœa promptly disappeared. P. Bétancourt.

Treatment of Lupus Vulgaris.—E. Schiff (*Vierteljahresschr. für Derm. u. Syph.*, 1880, p. 247) draws attention to the valuable but too little known contribution of Auspitz on the mechanical treatment of skin diseases, published in the same journal in 1876. Auspitz recommended, in place of the old method of cauterizing the lupus nodules with caustic potassa, that the sharp spoon or curette of Volkmann should be employed, either alone or in connection with the caustic. In addition, Auspitz recommended multiple puncture by Volkmann's method, and described a combination of the curette with a needle by which the desired end could be the more easily attained. Auspitz, however, confessed his procedure not altogether satisfactory, and suggested that the following method should be followed. The sharp point of the needle attached to the back of the spoon is first dipped in a solution of one part of iodine in twenty of glycerin, and then thrust into the lupus nodules. This process works very well, and in some cases with surprising success. But Schiff has recently devised a better method. For it will be found on trial that the continual dipping of the needle into the caustic fluid is a tiresome business, on the one hand, and, on the other, the very act of thrusting the needle into the tissues wipes off a large part of the fluid, which is thus lost. To obviate this difficulty Schiff has devised a sort of needle pipette, the point of which is hollow and sharp, like that of a hypodermic syringe, and to which is attached a hollow india-rubber ball. The whole instrument is not unlike the dropper used by ophthalmologists. It is evident that by this means a drop of the caustic fluid can be introduced without difficulty into the middle of a lupus nodule, and can then do its work effectually. Schiff adds the notes of several cases in which this procedure has been used, and which go to show its advantages in a striking manner. In the case of a scrofulous young girl who had suffered with well-marked nodular lupus vulgaris of the forearm, the patch being the size of an egg, the injections were employed twice to thrice weekly, while emplastrum hydrargyri was kept applied meanwhile. Within three months the disease had entirely disappeared, and up to one year subsequently showed no signs of return.

On the Composition of Jaborandi.—Dr. Albertoni (*Giornale la Saluta*) states that in Italian commerce a new preparation of pilocarpin has been introduced, under the name of *Pilocarpina Sciroposa Pura*, which, if dissolved in water and applied to the eyes of man, produces at first notable myosis, which will cease in the course of an hour, and then a mydriasis will follow, lasting from twenty-four to sixty hours. Pure pilocarpin and its salts never cause this secondary mydriasis in any dose. Longley had noticed some difference in the action of some of the preparations of the drug upon the heart, and Hardy—the first who investigated the chemical composition of jaborandi (without extracting the pilocarpin)—showed that the difference was probably due to the presence of another alkaloid. In some of the jaborandi of commerce Dr. Albertoni was able to discover only the myotic action.

Taking a certain quantity of pilocarpina sciroposa, and adding a little of $H_2Cl.$, Dr. Albertoni found that most of the substance crystallized. He separated the crystals, washed them with ether, and found that myosis was the only effect produced by them. The non-crystallizable part, which constitutes always a slight proportion of the entire mass, he also collected, and subjecting it to experiments obtained mydriasis,—its effects in general resembling those of atropia, and opposite to those of pilocarpin. He calls this new substance *anti-pilocarpin.* P. BÉTANCOURT.

TESTS FOR THE SALTS OF JABORANDI.—Roehl gives the following tests for the salts of jaborandi:

I. Phospho-molybdic acid gives with the salts of pilocarpin a *white caseous* precipitate, which detects 1 in 10,000 (watery solution), by adding HCl. 1 to 15,000.

II. Iodide of potassium (when saturated) gives a *white* precipitate in a solution of 1 to 10,000.

III. Iodide of potassium and bismuth gives a *reddish-brown precipitate* in a solution of 1 to 15,000.

Roehl attaches great importance to the *green* color which is obtained through the sulphuric acid and bichromate of potassium, and to the mode of behavior of its solutions so colored when seen by means of the spectroscope.

Cristowski, under the directions of Dragendorff, found, like Roehl, that pilocarpin could be isolated from its solutions by chloroform.

Besides the above tests we have the physiological, which is the most decisive. —Extract from *Giornale la Saluta*, 1880. P. BÉTANCOURT.

PARALYSIS AGITANS—POISONING BY HYOSCYAMIN.—M. Empis, at a recent meeting of the Société Médicale des Hôpitaux (*La France Méd.*, 1880, p. 651), reported that he had frequently given hyoscyamin in the dose of one to four milligrammes without having obtained well-marked physiological effects. In the case of a patient suffering from paralysis agitans, however, he prescribed pills of five milligrammes of this substance. The patient took his pill in the evening after dinner. Some minutes later he was seized with a sort of drunkenness, nausea, and vomiting; for some hours subsequently he felt very ill. He was not seen until the following morning. Meanwhile, finding after the vomiting was over that his hands trembled much less violently, the patient rashly took another pill. Dr. Empis, arriving a little later, found him feeling as if intoxicated; the trembling appeared to have ceased, he had a sensation as of mastic in the mouth, a little dryness of the throat, some nausea without vomiting. Violent delirium soon supervened, lasting several hours. There were four or five tetanic attacks. The patient failed to recognize his family, he saw animals about him, etc. In about three hours he began to recover. The next day he had no recollection of what had passed except the dreams of animals. M. Empis recommends that hyoscyamin should be given in one milligramme dose at first.

ACTION OF CARBOLIC ACID ON THE ANIMAL ORGANISM.—Th. Geis (*Cbl. f. Chir.*, 1880, p. 679) has attempted the experimental solution of certain as yet undetermined questions regarding the toxic action of carbolic acid, and has come to the following conclusions. He considers, with Salkowski, that increased irritability and excitability of the spinal cord are to be regarded as the causes of the convulsions. Carbolic acid paralyzes the vasomotor centres in the medulla oblongata; increase of blood-pressure does not occur with this. Conduction and dynamic force of the muscles are reduced decidedly below the normal in a frog poisoned with carbolic acid. The salivary and the perspiratory secretion are increased; the first very decidedly; whether the latter occurs from irritation of the chorda tympani, sympatheticus, or the glands, remains for further investigations to show. After death the brain shows the largest amount of phenol, then the kidneys, the blood, and the liver; the muscles show the smallest quantity. In poisoning by small and medium quantities, the cause of death, according to Geis, is paralysis of the respiratory centres. When large doses have been taken, the cause of death is stoppage of the heart and of respiration.

PHYSIOLOGICAL ACTION OF CONIUM MACULATUM.—In a communication made to the Académie des Sciences (*La France Méd.*, 1880, p. 650) MM. Bochefontaine and Tiryakian have given expression to the idea that conium maculatum contains two active principles endowed with different qualities, *conine*, *conicine*, or *cicutine*, a

paralyzant to the central nervous system, and another which acts almost like curara. A salt obtained from hemlock by M. Mourrut, the bromhydrate of conine, gives results similar to those obtained from conine. According to M. Bochefontaine, who through M. Gosselin has recently presented to the Academy a new communication on this subject, conine is absorbed by the mucous membrane of the digestive apparatus, for, having been given in a liquid form to a number of individuals, it has been found to cause general debility and the disappearance of violent pains in the stomach. Conine diminishes or abolishes the physiological properties of the nervous centres before acting like curara on the nervo-muscular connective substance. M. Bochefontaine formulates the comparative action of hemlock and curara thus: hemlock may act as curara, but it produces in addition certain physiological effects which are not noticed in animals submitted to the influence of curara.

Etiology of Chronic Ostitis and Periostitis.—Lücke (*Deutsche Zeitschr. für Chir.;* from *Cbl. f. Chir.*, 1880, p. 680) maintains that there are forms of chronic ostitis and periostitis which, although showing the same histological formation as the well-known tubercular forms, are in fact due to other causes, the prognosis in these cases being much more favorable. Most infectious diseases, acute or chronic, play a part here. In pyæmia (particularly puerperal) it is known that often, after the peculiar symptoms have passed away, secondary deposits may occur in the joints or in the epiphyseal ends of the bones. After acute infectious osteomyelitis and periostitis, the deposits are not infrequently observed to become encapsuled, latent, and later to take on a chronic form, to break out again when opportunity is given by fevers, anæmia, or trauma. The same is noticed after typhoid, variola, scarlatina, measles, diphtheria, whooping-cough, erysipelas, malaria, gonorrhœa. Syphilis is known as a cause.

Treatment of Effusions of Blood into the Cellular Tissue.—Dr. Constant (*Thèse de Paris*, 1880) says that these effusions are to be variously treated, according to the general health of the patient and the condition of the locality attacked. If not absorbed or evacuated, they may be transformed into cystic or solid tumors, which, however, do not in any case undergo change into malignant neoplasms. When large, they show little tendency to disappear spontaneously, and in such case cure may be attained by simple puncture, which is not followed by any accident, and which shortens very notably the duration of the trouble. If the skin covering the effusion becomes gangrenous, timely evacuation, before suppuration can occur, becomes all the more necessary, the danger, after the collection opens, being in direct ratio to the quantity of blood it contains. In case of suppuration, surgical interference becomes imperatively necessary, and the operative procedure is that required in a case of hot abscess. Old effusions of blood may be treated in various ways, as puncture, followed by stimulating injections, incision, or even extirpation, according to their condition, whether they are still in the liquid state or have become veritable solid tumors.

Menstruation after Hysterectomy.—Dr. Tillaux (*Bull. Gén. de Thérap.*, vol. ii., 1880, p. 231), completing the observations communicated by him to the Académie de Médecine relative to a woman operated upon last year, remarked that this individual, in whom the entire uterus except the cervix had been removed, had subsequently exhibited, as before the operation, the phenomena of menstruation. It must be stated, however, that both the ovaries had been preserved intact. In two other women, one of whom had retained the ovaries after hysterectomy and the other had suffered their removal, the menses had in the first case appeared and were kept up, while in the latter case they disappeared and did not return.

Double Urethra.—J. Dollinger (*Pester Med.-Chir. Presse;* from *Cbl. f. Chir.*, 1880, p. 688) reports a case of a man of 28 who had urinated through two openings from birth. The penis and glans were well developed. On the dorsal side of the glans was a deep gutter, which ran into the cavernous portion of the penis. Three and a half centimetres behind the point of the glans this gutter ended in an opening the size of a No. 12 catheter, and three and a half centimetres in length, which terminated in the normal urethra, the external opening of the latter lying farther up, so that a sort of epispadias existed. An operation resulted in restoration of the normal relationship of parts.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, NOVEMBER 20, 1880.

EDITORIAL.

GYNÆCOLOGY, VIEWED BY A GENERAL PRACTITIONER.

ALTHOUGH gynæcology is acknowledged as a true specialty, it must be admitted that it occupies towards general practice a very different position from that of ophthalmology. It is allied so closely to obstetrics, which of necessity, till the very constitution of things is altered, must form a prominent part of the family physician's work, that it is hard to draw the line and say how far the general practitioner should intrude himself upon the gynæcologist's field, or, more properly, how far the gynæcologist should be allowed to usurp the field already occupied from time immemorial by the family practitioner. At what shall the latter stop? Certainly he must know enough to perceive the necessity for recommending his cases to the specialist; and between the knowledge requisite to diagnose a uterine displacement and that required to rectify it by a properly-adjusted pessary is but a small step; and in local congestions, erosion of the cervix, menorrhagia, leucorrhœa, the use of the curette, and applications to the cervical canal, and even to the fundus uteri —at what point is he to pause?

Perhaps the greater operations—the removal of tumors, polypi, fibroids, and ovarian cysts, the cure of fistulæ and lacerations—would about cover the field of the gynæcologist and indicate the point where the family doctor could leave his patient, having seen her safely there, in the hands of the great man. But the specialist is not by any means disposed to limit his practice in this manner. He claims the right to be considered an expert in obstetrics on occasion, and considers himself as the only proper custodian of all cases of uterine disease; nor do his large fees leave the usual attendant any chance, for where the circumstances of the patient are too limited to admit of such payment he offers the facilities of his free clinic or dispensary, with the ægis of his great name.

In rural practice, of course, the specialist is not so accessible, but it is a mean city to-day which cannot boast at least one skilful gynæcologist, and the already narrowed field of practice on which, it seems, we general practitioners have been squatting since the time of Hippocrates is being rapidly claimed and enclosed by these lords of the soil, till at last it may happen that the whole class of general practitioners will be evicted to make room for still more enterprising claimants, who will divide and subdivide till, by retributive justice, the holdings will become too small to support their occupants. Then the specialist who removes ovarian tumors will sullenly glare at him of the uterine fibroids, and the wielder of the tenaculum come to blows with him of the curette.

But to avert that dreadful day it behooves each practitioner to fit himself as much as possible for advanced gynæcological work, that the patient, if she by evil chance break forth from his hand uncured, may at least have paid him tithe before she goes. To acquire this knowledge requires both courage and industry. Only those especially favored by circumstances and location can enter again upon a student's career, and books must therefore afford them the information which the graduate of to-day has almost unconsciously imbibed.

The books that are to supply the stone for these defensive fortifications are not far to seek: they are furnished by the enemy himself. They should be, not the work of a novice, who teaches himself as he writes, nor the product of the book-maker, who

sees in publication a rapid step to reputation, nor even the labored compilation or the elaborate treatise of the scholar, but books which are the mirror of the daily work, the daily and hourly experience and expedients, of a practical master. The new edition, so fresh that it yet reeks with the odor of the printing-room and the bindery, of the treatise by Prof. Thomas, of New York, might well furnish the material for the first line of intrenchments, whilst to the inner citadel might be assigned the "Lessons in Gynæcology," by our fellow-townsman, Dr. Goodell.

Lay deep, then, O brother-practitioners, the foundations of that knowledge which shall be our sure defence against that spectre, whose name is Gynæcology, which now confronts us in the doorways of our choicest patients,—

"A formidable shape:
The one seemed woman to the waist, and fair,
But ended foul in many a scaly fold,
Voluminous and vast, a serpent armed
With mortal sting."

We are always pleased to note honors paid to naturalized as well as native citizens of Philadelphia. The late Benjamin Cartwright, of Newark, New Jersey, besides leaving a sum of money to the Pathological Laboratory Fund of the Alumni Association of the College of Physicians and Surgeons in New York, established a course of lectures to be given yearly, and Dr. Roberts Bartholow has been selected to deliver the first course.

CORRESPONDENCE.

BOSTON LETTER.

Mr. EDITOR,—Do we, in our rich possession of the advantages of medical centres,—the hospital, the clinic, the well-stocked library, the ever-freshly-laden tables of the medical reading-room, and, above all, the abundance of opportunity, when we are cornered, to consult other and wiser men than ourselves,—do we realize the severity of the deprivation of all these comforts, luxuries, and aids which it is the lot of the country practitioner to bear? How enviable, in these respects, must he consider our privileges! If he can afford it, he has his medical journal, and occasionally allows himself the luxury of a new book. But in the monotony of his daily round, his long drives over hill and through woods in dark night and stormy day, what has he by way of medical refreshment and professional recreation? Nothing but his little shelf of books, his love of medical work, his good courage, self-confidence, and self-dependence. A dreary outlook, one would think; a most juiceless life. But yet there must be a compensation in the thought of duty faithfully performed, of unselfish and untiring devotion to the sick in the face of small fee or none at all.

They are brave, true-hearted men, these isolated, hard-working country doctors. And their mere isolation and lack of all brotherly intercourse with fellow-practitioners give them a fibre, a mental muscle, a fertility of expedient, a coolness in danger, a power of self-knowledge and self-reliance, which many a city physician never has the opportunity for developing. I am not sure that the life of the country doctor would not prove a wholesome tonic to us of the cities. Every need of ours can be supplied almost on the instant; aid and instruments of every sort lie ready to our hand or within call. But the doctor of the hill, wood, and farm must depend upon himself and his few instruments. His aids are the uncultured people about him. What he does in a time of danger must be done at once or not at all. Waiting brings *him* no help. And thus he learns to meet difficulty with readiness. Thus is he forced to create his own resources. Thus he rounds out his every faculty, moral, intellectual, and mechanical. If you have ever talked with one of these prompt, cool, unflinching men, you doubtless have been surprised by his common sense, his faculty of observation, his intuitive power in diagnosis. He is not a theorist, not a book-man. He follows modes of treatment which are credited to great names in the books, but he may never have heard or read of them. He is a sort of medical Robinson Crusoe, who hews out his own appliances, overcomes obstacles and dangers with means of his own improvising. Happy is he if he have the help even of an untutored Friday. All honor and respect to these noble men, say I. Without praise, without fame, perhaps almost unknown, save in the little circle of their patients, they toil on without rest and with little reward until they die. One joy they do possess; they are devotedly beloved and honored by those whom they serve.

It occasionally occurs, however, that the ability of a country physician is of a quality and accomplishes results which cannot be kept under a bushel. He does a surgical operation of infinite difficulty under conditions which would absolutely discourage a man of a lower degree of self-reliance, or he brings about a recovery from the very jaws

of death by an instantaneous appliance of a remedy the details of which would deter a city physician from making use of it unless he had every complication of modern improvement to aid him, while his country *confrère* will satisfy himself perforce with the veriest of all primitive materials, and be successful at that.

Let me tell you of such a man, one who has been famous, who became famous in spite of his modesty, and whose memory should be revivified, for it is in danger of being forgotten.

Dr. Amos Twitchell, of New Hampshire, born in Dublin, of that State, in 1781, became an office-student under Dr. Nathan Smith in 1803, after graduating at Dartmouth. He began to practise in 1805. At the expiration of two years he wrote, "I find I am doing poorly; some of my patients have run away, others are unable to pay, and not any of them *do* pay." Experience of this nature depressed him. He moved to another village, with the purpose of devoting himself to surgery. He had enjoyed a somewhat large experience in dissection under Dr. Smith, and surgery was his natural specialty. Having already been two years in country practice, his native courage, quickness of decision, and readiness in resource had rapidly matured.

It was just at this time that he performed an operation which invested him with a fame of life-long endurance. This was nothing less than *tying the common carotid*, which, while common enough now, at that time, to Dr. Twitchell at least, was an unknown procedure. Hebenstreit, a German surgeon, in a translation of Benjamin Bell's Surgery, mentions a case in which the carotid was wounded during the extirpation of a scirrhous tumor. The surgeon at once tied the trunk of the vessel, and the patient recovered. This, according to Cooper's Surgical Dictionary, is probably the first authentic instance of ligature of the common carotid. In 1798 Abernethy was forced to tie the carotid in a case similar to Twitchell's, but the results were such as would only confirm the general belief of that day, that the operation was neither allowable nor safe. In 1803 Mr. Fleming, an English naval surgeon, tied the vessel in a case of attempted suicide, and saved his man; but the case was not published until 1817. In the same year (1803), according to Dr. Bowditch (Twitchell's biographer), Dr. Cogswell, of Connecticut, tied the carotid during an operation for the removal of a cervical tumor; the patient died in three weeks, and the details were not published for years afterwards. Velpeau states that in 1804 Dubois intended to do the operation, but his patient died before he had begun. In 1805 Sir Astley Cooper operated for aneurism of the carotid, and tied the trunk; the patient died. And it was not until 1808 that Cooper "proved the feasibility of tying this vessel with perfect safety to life." He did not publish his case until 1809.

It seems, then, that when Dr. Twitchell did the operation, in October, 1807, not only was surgical opinion generally opposed to it, but that no previous operation, with the exception of Abernethy's, could have been known to Dr. Twitchell in a published form; and Abernethy's case was not encouraging, for his patient's brain became affected, and he died. Moreover, Dr. Twitchell positively asserted that he was totally ignorant of the fact that the vessel had previously been tied by any one, although from his own experiments on animals he had been led to *surmise* that it could be closed in man. So much do we learn from his biographer, who adds, "Why, then, should he not stand in the same rank with Abernethy and Fleming, so far, at least, as one operation shows the calibre of a man's mind?" But I suspect—a point of comparison not touched by Dr. Bowditch—that both Abernethy and Fleming had every convenience and a staff of assistants besides, while Twitchell was almost absolutely unaided at a moment of terrible stress and danger.

Moreover, when Abernethy tied the carotid he was thirty-four years of age, and had been practising surgery at least twelve years. The age of Mr. Fleming does not appear; but, since he was an English naval surgeon, and performed his operation in 1803, it is more than probable that his age was mature, and he undoubtedly had seen a vast amount of surgery during the peppery times in which he lived. One other point. Both Abernethy and Fleming, especially the former, naturally had seen much surgical practice in hospitals. Now look at the other side of the shield:

When Dr. Twitchell tied the common carotid he was only *twenty-six* years of age, had been in practice but *two* years, and of course, even while educating himself in medicine, having *always* lived in the country, he had seen but a very limited amount of surgical practice. In any case, surgical operations in this country, between the years 1800 and 1804, were nowhere very numerous.

For the other details of the case let me briefly quote from Dr. Twitchell's notes: "During a mock-fight a cavalry soldier received a wound, from a pistol discharged near him, on the right side of the neck and face." The injury was very serious. On the tenth day he writes, "I applied the usual dressings, left the room, and was about leaving the house, when some one cried out that the patient was bleeding. I hastened back, and found him deluged with blood. The dressings were immediately removed, and the blood jetted forcibly in a large stream to the distance of three or four feet. With the thumb of my left hand I instantly compressed the artery against the base of the skull, and thus effectually controlled the hemorrhage. The patient had fainted, and fifteen or twenty

minutes elapsed before he was so much revived that I dared make any attempt to secure the artery. Then, still keeping my thumb firmly pressed on the orifice, I proceeded to clear the wound from blood; and, having done this, I made an incision with a scalpel downward along the course of the artery to a point more than an inch below the location where the external branch was given off, and which, as mentioned, had been destroyed at the time of the injury. *Having but one hand at liberty, I depended upon the mother of the patient to separate the sides of the wound* [italics mine], which she did, partly with a hook and occasionally with her fingers. At length, partly by careful dissection and partly by using my fingers and the handle of the scalpel, I succeeded in separating the artery from its attachments, and, passing my finger under it, I raised it sufficiently for my assistant to pass a ligature round it. She tied it with a surgeon's knot, as I directed, at about half an inch below the bifurcation." And thus, with *no other assistant than an aged woman*, and she the mother of the patient, and with *only one hand at liberty*, did this brave young man perform the hazardous operation the details of which he gives with such striking modesty!

But the call upon his ingenuity and coolness was not yet ended. "I removed my thumb," he says, "and sponged away the blood, not doubting that the hemorrhage was effectually controlled; but, to my surprise and disappointment, the blood immediately began to ooze from the rupture in the artery" (collateral circulation), "and in less than ten minutes it flowed with a pulsating jet. I again compressed it with my thumb, and began to despair of saving my patient. What further could I do? It was impossible to apply a ligature above the orifice; compression, then, was the only alternative." After considering the pros and cons of digital compression, he finally raised his thumb and applied a bit of dry sponge over the orifice in the artery, upon this a second and larger piece, thus adding piece after piece, each being a little larger than its predecessor, until he had filled the wound with a firm cone of sponge, which pressed upward and backward against the base of the skull, the broad portion of the cone projecting two or three inches externally. This was fixed by a roller-bandage, and the patient was then put to bed. His escape from death was a narrow one, but the wonderful and ready coolness and ingenuity of Dr. Twitchell had saved him, for he made a good recovery.

Dr. Twitchell, with characteristic modesty, subsequently wrote, "This case seemed to me at the time highly important and valuable, since it established facts which, so far as my knowledge extended, had not till then been known. The question of the practicability of the safe application of the ligature to the common carotid artery was, in my opinion, now solved." But, in spite of this opinion, Dr. Twitchell would not allow the publication of the case until thirty years had elapsed, and then only upon urgent solicitation, because *the operation was forced upon him, and not undertaken voluntarily.*

Is there another case on record of ligation of the common carotid by a young surgeon of only two years' practice, *the operation being performed with one hand and an ordinary scalpel, the only assistance being rendered by an old woman, and she the mother of the patient?*

In 1840 Dr. Twitchell made what was then considered a very remarkable diagnosis. He asserted that a patient who had been under the care of the most eminent of the faculty had pus in the tibia, and, upon trephining the bone, found one and one-half ounces of pus. Sir Benjamin Brodie, in 1832, had published a paper giving details of two similar cases in which he had trephined; but Twitchell thought this operation was his own, for he had never heard of or seen Brodie's paper. He was offered professorships in various New England colleges, but declined them all. He was invited to move to Boston, but preferred to remain in Keene, to which place he finally moved, and where he died in 1850, beloved by all who knew him and held in high esteem by his contemporaries throughout the country.

Surely the memory of such a man—a thorough physician and a brilliant surgeon—should be kept fresh. I am glad to say that a fine likeness of Dr. Twitchell occupies a prominent place in the rooms of the Boston Medical Library Association.

A brief allusion may be made to a second country physician and surgeon now living in Keene, New Hampshire, and considered the leading surgeon of his State. I refer to Dr. George B. Twitchell, nephew of him whose ability I have endeavored to show, and who seems to have inherited the self-reliance, ready skill, and courage in emergency so characteristic of his uncle. A single instance of his power will suffice.

In August, 1879, this gentleman was called, in consultation, to a case of progressive anæmia. The patient was a woman aged 45, who had fallen through a broken floor. This was followed by severe cramps in the stomach and bowels. Constipation and vomiting supervened, the latter being so violent and incessant that it continued almost without exception for five weeks. Every means of nourishing the patient had been tried in vain. She became so reduced and so feeble that the radial pulse disappeared and the respirations numbered only five to the minute. When Dr. Twitchell was called, he said that in transfusion lay the only hope of saving the patient. With Dr. S. A. Mason, of New York, who temporarily had charge of the case, the possibility of procuring instruments from New

York was discussed; but it was seen that the emergency was too serious: death would ensue before the instruments could be obtained. It was then decided to use such aids as were at hand. Dr. Twitchell went for an old canula once belonging to his uncle, and for a fountain-syringe. With these primitive aids and a scalpel the operation was performed. Blood was drawn, to the amount of six or eight ounces, from the arm of the patient's son. It was caught in a bowl, the fibrin whipped out with a fork, the blood being kept at the proper temperature by setting the bowl containing it in a dish filled with warm water. Finally it was filtered from coagula by means of a handkerchief. Everything being ready, Dr. Twitchell began the operation, but was at once disheartened by what threatened to be a fatal syncope. The patient, however, was revived, and Dr. Twitchell proceeded. He had only the old imperfect canula, which lacked a trocar, and, moreover, the vein of the patient's arm was so collapsed that a dissection was necessary. Following this, the vein was lifted and incised, and the canula, having been attached to the syringe by slipping the hose over its free end, was introduced into the bloodless vein. The syringe, of course, before the blood was emptied into it, had previously been warmed and cleansed by means of hot water. So soon as the blood began to flow, the patient, who could not speak aloud, whispered, "I feel that blood." From an imperfection in the canula, some of the blood was lost. Six ounces more were therefore taken from the son's arm, and, after having been put through the defibrinating process already described, were injected without loss. At the close of the operation the patient's cheeks showed a slight flush. A little milk was given, and, for the first time in weeks, was not rejected by the stomach. Nourishment was carefully administered in increasing amounts, and the result was a complete recovery of health.

This operation, it seems to me, in its way, was as daring, and showed as much self-reliance and readiness of resource, as that performed by the elder Twitchell. In this case, too, the operation was determined beforehand, when the great obstacles had opportunity to discourage the operator, while the other was forced upon the surgeon. Are there many surgeons who would undertake transfusion with a scalpel, a fountain-syringe, and an old-fashioned canula? In view of the complicated and perfect apparatus now used in this operation, it is probable that if the average surgeon had the old canula he would not think of the fountain-syringe, and if he had both would not dream of attempting transfusion with them alone.

This operation showed a heroism which should win for Dr. Twitchell the highest meed of praise. The case was reported in the *New York Medical Record* by Dr. Mason, but in a very simple manner, the bare facts alone being given. I have seen no allusion to it, and if Dr. Mason had not communicated it to the medical world it is probable that Dr. Twitchell would never have done so, for, like his uncle, he is a man who works for results and not for praise. A simple, genial, brave gentleman. Would there were more physicians like him in the cities as well as in the country!

H. O.

Boston, November 2, 1880.

REVIEWS AND BOOK NOTICES.

A Practical Treatise on Fractures and Dislocations. By Frank Hastings Hamilton, A.M., M.D., LL.D., Surgeon to Bellevue Hospital, etc. Sixth American Edition, revised and improved. Illustrated by three hundred and fifty-two wood-cuts. 8vo, pp. 909. Philadelphia, Henry C. Lea's Son & Co., 1880.

This excellent and exhaustive treatise, which is so thoroughly appreciated both at home and abroad as to demand no commendation at our hands, has been enlarged by upwards of one hundred pages, and materially improved by the addition of a chapter on general prognosis, and by a revised chapter on fractures of the patella, the latter of which is a *résumé* of a separate brochure on that subject.

In the chapter on general prognosis Dr. Hamilton earnestly combats the extraordinary and pernicious doctrine of Dr. Sayre in regard to the union of fractures of the long bones without shortening, and shows that his statements are based upon erroneous observations of, as a rule, imperfectly-recorded cases in Bellevue Hospital. Indeed, in view of the unequal length of the bones of both extremities,—a fact which has been fully established by Cox, Hunt, Wight, and Morton,—the measurement of limbs is almost valueless. At page 437 Dr. Sayre is placed in a most unpleasant light by the positive denial by the author that he measured the limbs which Dr. Sayre asserted were cured without shortening.

In the chapter on fractures of the patella we are surprised to find that, among the numerous appliances which are described and depicted for their treatment, there is no notice of the apparatus of Agnew, nor of the modifications of Malgaigne's hooks made by Dr. Levis and Dr. Morton, which have been so successfully employed in this city, and through the use of which bony union has certainly been obtained. Among the earlier papers on the subject, with which Dr. Hamilton should have been familiar, reference may be made to one, with an illustration, contributed by Dr. Levis to the *Medical Times*, May 26, 1877, and to another from the pen of Dr. Morton,

which appeared in the *Medical News and Library* for December, 1879. Our own opinion—and we are sustained in it by many of the best surgeons of this city—is that ordinary appliances interfere with the nutrition of the patella to such a degree that fibrous union alone is to be looked for. With the view to obtain bony union nothing could be better than the improved hooks to which we have alluded.

Among other omissions—and they are inexcusable on the part of an author who has devoted the best years of his life to the preparation and the revision of several editions of a practical treatise—the following may be noted: the failure to give credit or even allude to the procedure of the elder Pancoast for securing the fragments of ununited bones by means of a metallic pin or screw,—an operation which he first performed in 1857, and which is fully described in Gross's Surgery; no allusion to Professor Bigelow's sub-periosteal resection and wiring the ends of the bone,—a practice which was attended with ten cures out of eleven cases; no mention of Bryant's test-line in the diagnosis of fracture or shortening of the neck of the femur, or of his treatment of fracture of the thigh in children by vertical extension; no reference to the splints of Levis, Gordon, and Coover for fracture of the lower end of the radius; nor any mention of Allis's diagnostic sign of fracture of the neck of the femur, namely, a relaxed condition of the fascia lata between the crest of the ilium and the great trochanter, nor of that gentleman's investigations in regard to the deformity from fractures involving or approximating the elbow-joint.

Among other shortcomings are an inadequate description of the very useful and readily-applied Bavarian bandage, and the illustration at page 479 showing the application of adhesive plaster for making extension in fractures of the femur. Instead of being carried above the knee, the strips terminate below that articulation. Dislocations of the hyoid bone are not described.

In referring, in his preface, to certain omissions in the treatises of Gurlt and Malgaigne, Dr. Hamilton remarks that they are "defects which might have been easily remedied in later editions if the authors had seen fit to do so." For this reason he can scarcely find fault with the reviewer who directs attention to his own omissions, particularly when such criticism is meant to make him more careful in the preparation of future editions.

On Slight Ailments, their Nature and Treatment. By Lionel S. Beale, M.D., F.R.S., etc. Philadelphia, Presley Blakiston, 1880.

"The maintenance of each individual organism in a good state of health, and careful attention on the part of the practitioner to slight ailments, are . . . of far greater importance practically than the hunting and extermination of various species of hypothetical pathological bacteria, even though it were actually possible to catch and exterminate legions." In such forcible language does the author express his sense of the gravity of his subject.

From beginning to end there is little of the new and precise therapeutics of the day, while the now despised empiricism, or experience with ignorance, whether individual or garnered from past centuries, is extolled on almost every page. Wherever with his microscope, however, the writer can light up and examine, *con amore*, some dark corner, or where he pauses to discourse learnedly upon a flea-bite, the truly scientific person can find much interesting matter.

The author's therapeutics for slight ailments are neither new nor very varied. Old-fashioned purgatives, emetics, acids, and antacids find most favor in his eyes, and, while professing to instruct in the old, fast-fading formulæ, we miss very many remedies sanctioned by experience and antiquity. Almost instinctively in such a work one turns to "Headache" and "Indigestion," as tests of the author's practical value. The ideal treatise on indigestion has yet to be written; we do not find it here, though there is much that is instructive and entertaining. Headache, which is synonymous in his view with biliousness, he considers as a derangement of the digestive organs. If there were perfect digestion and excretion, there would be permanent cure. In impending cases his favorite, mercurial with colocynth, followed by a saline, is recommended, but in its distressing actuality the first remedy given is "to persuade the patient to think as little about it as possible," and go about his business, abstaining from food absolutely. Where the victim refuses to treat the matter so lightly, he must keep warm, soak the feet, sinapism the nape of the neck and pit of the stomach, take lemonade if he crave acids, and drink strong tea, even to five cups. The author is evidently benefited by strong tea in his own attacks. It is refreshing to read (p. 222), "I can assure you that the very confident, unqualified condemnation of mercurials that has lately been so fashionable rests on no foundation of fact. . . . I could give examples of life being prolonged to more than eighty-four, although one or two grains of blue-pill had been taken every fourth or fifth day for forty years." Strong medicine, without blood-letting, however, is recommended freely; the forgotten virtues of black-draught and nitre-balls are extolled. "In these days," he says, "not only do we neglect to use many of the old prescriptions, but we no longer suggest new ones." Now, while the author has not done the former, he has left the latter almost undone, since we have not met, in a careful reading, a single new, original combination. E. W. W.

SOELBERG WELLS ON THE DISEASES OF THE EYE. Third American Edition, with Copious Additions by CHARLES STEADMAN BULL, A.M., M.D., Surgeon and Pathologist to the New York Eye and Ear Infirmary, Lecturer on Ophthalmology in the Bellevue Hospital Medical College. Philadelphia, Henry C. Lea's Son & Co., 1880.

Since the issue of the first edition of this most estimable work in 1869, it has held its place as one of the leading text-books on ophthalmology in the English language, if not really the leading one. It came out just at the right time. There was nothing for us English people but Mackenzie, a splendid work in itself, but somewhat too antiquated for the times.

Dr. J. Soelberg Wells, F.R.C.S., was an early and attentive student of the leading Continental teachers of ophthalmology, especially of the great, lamented Von Graefe. In his work he lays great stress upon the observations and teachings of that renowned ophthalmologist, and was the first to present his ideas fully to those reading only our language.

Dr. Wells's long connection with the Royal London Ophthalmic Hospital, as well as his position as Professor of Ophthalmology in King's College, London, gave him abundant material for personal observation to bring into his work.

The first edition was soon absorbed, so that it was necessary to issue a second and then a third, which having been sold, a fourth was in preparation, but, his health becoming shattered, he left England for Cannes, in the south of France, hoping that the change to a mild climate would be of benefit to him; but, it being otherwise ordained, he died there in December, 1879, thus preventing the issuing of the fourth edition.

The book being entirely out of print, and the demand for it still continuing, Dr. Bull has taken in hand the editing of an American issue of the last edition, with the necessary additions to bring it up to the present day.

Dr. Bull has done his work quite well and judiciously, by introducing notes embracing almost all of the advances in ophthalmology since the appearance of the last issue. He has also more fully illustrated it than the last English edition.

The typographical errors are not numerous. One, however, it would be well to notice on account of its misleading the student, and that is on page 236, where an effusion of blood in the anterior chamber is called "hyperæmia" instead of "hypæmia," or, as the Continental writers call it, "hyphæmia."

It is true that we have very good translations of foreign works on ophthalmology, some of which are perhaps fuller and more complete in many ways, but none are handier, clearer, and more explicit than this of Wells.

As a text-book it is excellent; but it should be understood by the student and general practitioner that the study of this book alone does not make a perfect ophthalmologist. There is very much more theoretically and practically to be learned before one is thoroughly capable to diagnose and treat any and every form of disease and affection of the eye, and make all operations on that organ that may come before him. It is intended to give such an insight into that branch of medicine and surgery as shall lead one to further and deeper study, and to prevent the many mishaps that have occurred and may occur in a general practice from want of knowledge of the seriousness of the diseases and affections of the eye, and the necessity of calling in or sending early to the specialist. K.

FRACTURE OF THE PATELLA. A STUDY OF ONE HUNDRED AND TWENTY-SEVEN CASES. By FRANK H. HAMILTON, A.M., M.D., Surgeon to Bellevue Hospital, etc. 8vo, pp. 106. New York, Chas. L. Bermingham & Co.

A careful examination of this book has failed to convince the reviewer of its being a complete monograph on the subject of fracture of the patella. It certainly is a *mono*-graph, since it treats of only one side of the subject. It is not, however, the elaborate consideration of the injury in question which it was hoped Dr. Hamilton would give us. Much has been done of late in Europe and America to perfect, or at least to endeavor to perfect, the methods of treating this usually unsatisfactorily treated fracture; and yet, we may justly say, nothing of importance has been said of these experimental inquiries. The treatments by hooks, by wiring, and by carbolized sutures, which have been so frequently mentioned in the German, English, and American journals, receive no notice,—either because the author has not taken time to bring his work up to the present state of knowledge, or because he does not believe in novelties or revived methods of treatment. In either case the volume is diminished in value, since the profession always looks in monographs for the latest views and most judicious criticism pertaining to the subject discussed. Very nearly three-quarters of the book (73 pages) are occupied by unimportant details of cases,—details which are of little value when accurately given, but absolutely worthless when compiled from hospital records inaccurately kept. The last two chapters, consisting of an analysis of the cases and of some general remarks made on the subject at the clinic of Bellevue Hospital, are really the only portions of the volume that are likely to be read.

Muscular contraction is considered the chief factor in producing transverse fracture of the patella, and undoubtedly the author is correct in his belief, since the experience and observation of all surgeons support this view. The injury is far more frequent in man than in

woman, and in the middle period of life than in childhood or old age, which facts also seem to point to its causation by muscular contraction. The method of treatment preferred by Prof. Hamilton is to elevate the limb, and apply a moulded posterior splint of leather from the middle of the thigh to the ankle. Bandages are then applied from the ankle upwards and from the hip downwards, while the fragments are held together, as well as can be done, by circular turns of the bandage just above and below the bone.

The typographical appearance is good, and it is unfortunate that the volume has not been more carefully compiled and the subject more elaborately discussed, as it would then take a high place in surgical literature, which possesses little in a permanent form on the subject of fracture of the patella. J. B. R.

A Manual of Minor Surgery and Bandaging. By Christopher Heath, F.R.C.S., Surgeon to University College Hospital, and Holme Professor of Clinical Surgery in University College, London, etc. Sixth Edition, revised and enlarged. Philadelphia, Lindsay & Blakiston, 1880.

The rapidity with which successive editions of this manual have been called for by the profession, both in England and America, is a worthy tribute to the deserved popularity of the distinguished author and the excellence of his work. In the introductory chapter, as in previous editions, the general duties and the conduct of hospital-residents are clearly set forth, a close adherence to which would make the services of resident physicians more profitable to themselves and satisfactory to their chiefs and the managing boards of hospitals. The general and local treatment of hemorrhage and the various methods of resuscitating patients in vogue at the present time are considered with a fulness of detail that the importance of these subjects warrants. A full description of the antiseptic system as practised by its advocates in the treatment of wounds is contained in this edition: the author, however, expresses no opinion in regard to the relative merits of Listerism. Considerable space is likewise devoted to the present popular plan of treating curvatures of the spine by means of plaster-of-Paris jackets, and in connection with this subject our distinguished countryman Professor Sayre receives the credit due him for this valuable contribution to surgical therapeutics. Chapter X. contains a brief account of the splints recently devised by H. O. Thomas, of Liverpool, for the treatment of diseases of the hip- and knee-joints; there is no notice, however, of the important modifications of these splints that have been made at the suggestion of Professor Agnew. The work is illustrated by one hundred and fifteen wood-cuts, the majority of which have appeared in former editions. C. T. H.

Diseases of the Pharynx, Larynx, and Trachea. By Morell Mackenzie, M.D. 8vo, pp. 440. New York, Wm. Wood & Co., 1880.

This book is a reprint of the first volume of Dr. Mackenzie's "Diseases of the Throat and Nose." No mention being made of the fact that it is an incomplete work, the reader might be deceived into accepting it as a distinct production from the foregoing.

The illustrations are rude copies of the originals, with names of New York cutlers engraved upon them, or, when not so marked, with the name of the English cutler omitted. The scale upon which the drawings are made is not infrequently dropped, and other liberties are taken with the originals. We say the wood-cuts are rude. We can go farther: many of them are caricatures. They are worse than useless, since they mislead. We regret that Dr. Mackenzie should have permitted this mutilated volume to appear. In the event of his not having sanctioned the enterprise, the action of the publishers, in our judgment, is scandalous, and should be rebuked by the profession.

Minor Gynæcological Operations and Appliances for the Use of Students. By J. Halliday Croom, M.B., M.R.C.P.E., etc. Edinburgh, E. and S. Livingstone, 1879.

Both of these manuals for students will be found very useful, and, from their small size and clear print, would not be useless to practitioners in general as handy books for the pocket, to be perused in the spare minutes. The manual of Dr. Croom is profusely illustrated, and the specula, pessaries, sounds, and sponge-tents are almost life-like. Page 29, however, presents a picture over which the reader may well pause in astonishment, for in it is seen a woman, forlorn, slightly clad, lying on the sands of some desolate shore, and clinging to a rock with both arms. At her side the tide can be seen rising. The text, however, reveals the fact that she is only in the ordinary gynæcological position, lying on a mattress and grasping a pillow. The water is the side of the mattress, while on the opposite page are portrayed a Cusco and a Sims speculum. The romance disappears; the prosaic reasserts itself. E. W. W.

A Treatise on Foreign Bodies in Surgical Practice. By Alfred Poulet, M.D., Assistant-Surgeon-Major, etc. 2 vols. 8vo, pp. 271 and 321. New York, William Wood & Co., 1880.

These volumes constitute a valuable addition to surgical literature, but the cheap manner of their getting up,—which, we presume, calls for poor paper, trying type, and execrable wood-cuts,—as well as the absence of running heads, save the title of the work, so greatly detracts from its value that we advise our readers to purchase the original.

GLEANINGS FROM EXCHANGES.

TREATMENT OF SPRAINS BY MASSAGE.—Dr. Bérenger-Féraud, an old army surgeon, gives an account of four hundred sprains which he treated successfully with massage. He speaks as follows:

I think it necessary to tell in detail how, in my opinion, a person ought to proceed when he undertakes to treat a sprain by massage, for it is by indicating very clearly the manner of proceeding which has succeeded, that those who are beginners are put under the best conditions to obtain a success at the first essay which they may make of the method. Let us suppose that we have a sprain of the foot. After we have arrived beside the wounded,—and note in beginning that the nearer the massage is to the moment of the accident the shorter is the treatment,—we make him sit upon a chair if he is up; we seat ourselves in front of him and make him put his injured foot upon our knees. If, on the contrary, the subject is lying down, it suffices to uncover him, and if need be to unbandage him in order to make a diagnosis. This diagnosis being established,—that is to say, when we have found out that we have to do with a sprain, slight, medium, intense, or complicated,—we proceed to the manipulations. We begin by making on the dorsal face of the foot, going from the root of the toes to the leg, following the direction of the extensor tendons, passes as light as possible with the pulp of the four last fingers, anointed from time to time with some fat body,—olive oil, for example. These frictions, which ought always to be directed from the extremity towards the root of the limb, and never in a contrary direction, are extremely light; they begin quite far above the painful part, and are prolonged as far below. They ought not to be painful; and in the cases in which, in spite of their extreme slightness, the subject finds them too painful, it will be necessary to begin at some other region, leaving the dorsum of the foot to return to it when the sensibility has been a little blunted by the massage.

Little by little the pressure is augmented, and at first the pulp of the four last fingers of both hands, then that of the two thumbs, intervene, according as the contact is less painful for the patient. A few minutes after beginning, in general, one may press very notably on a place which at first could not support the slightest friction without suffering. Soon after it is a veritable friction, quite strong, that we may practise, taking care to have recourse to the fat body to protect the skin of the patient, which would not be slow to become excoriated if it were kneaded dry, and the pulp of the fingers feels a sort of peritendinous œdema which one makes mount upwards little by little above the ankle, as far as the fleshy portion of the extensors of the toes and of the anterior tibial.

According as the contacts are less painful, we cause slight movements to be executed upon the articulations in the neighborhood of those which are injured, and one arrives thus little by little at those in which the sprain has spent most directly its effects. These movements are very gradual; imperceptible at first, they go on little by little increasing, until at the end of the *séance*, which it is necessary to prolong willingly, pain being always very carefully avoided, we cause the part to execute all its physiological movements in their greatest amplitude.

At certain moments we may feel under our fingers substances like small nodosities, more or less voluminous, large as a lentil,—nodosities at first fixed, afterwards movable, of which the patient is conscious, and which give an impression of pain when pressed a little forcibly. It is necessary to pass the fingers with persistence over them, taking care to do so lightly enough not to make the patient suffer; and, moreover, they must be mobilized little by little,—at first chasing them very gently, afterwards as far as the fleshy portions of the extensor muscles of the toe and the tibialis anterior.

At the end of a time which varies from one to five minutes, friction may be applied with greater and greater force, and soon strong pressure provokes no sensible pain. This is the moment to leave this portion of the foot to knead either the more external part or the internal part, by passing then along the border of the foot as far as the malleolus, which is turned in such a manner as to follow either the tract of the peroneal tendons or that of the muscles of the posterior tibial region. We act upon each of these regions, as I have said previously, going from the lightest rubbing to vigorous friction, taking as a guide the impressions made upon the patient, and taking great care not to hurtle against an osseous eminence.

The *séance* ought to continue until all feelings of distress and pain have disappeared. When the operation is once terminated, a retentive apparatus is applied.—*Canadian Journal of Medical Science;* from *L'Union Médical du Canada.*

ATROPIN AS A PREVENTIVE TO THE CARDIO-INHIBITORY EFFECTS OF CHLOROFORM.—Mr. E. A. Schäfer, writing to the *British Medical Journal* (vol. ii., 1880, p. 620), says, speaking of a death from chloroform, during an operation, when injections of atropin had been used, that it is well known that atropin paralyzes the cardiac inhibitory apparatus. Since it is probable that death in these and similar cases results from a stimulation of this apparatus, either directly by the drug, or, it may be, in some instances, in a reflex manner, by the stimulation of abnormally excitable afferent nerves during the actual performance of the operation, there undoubtedly seems good reason for the employ-

ment of atropin. But, clearly, it should always be given immediately before the administration of chloroform, *as a preventive;* for if the heart's action has completely stopped, the circulation having once ceased, of course no cure is possible; and even if the inhibitory action has only much slowed and weakened the heart, without having actually arrested it, the absorption of the atropin would probably be too long delayed to be of any avail.

CASE OF MALFORMATION OF THE HEART.—Dr. Thomas B. Peacock reports (*Lancet*, vol. i., 1880, p. 530) a case of great constriction or stenosis of the orifice of the pulmonary artery; aorta arising from both ventricles; defects in the fold of the foramen ovale; the ductus arteriosus closed. The patient was a child one year and seven months of age, and the signs of malformation of the heart were very marked. The lips, hands, and feet were very livid; the ends of the fingers and toes were clubbed, and the nails incurvated. The cyanosis was probably present from birth, but it first attracted decided attention when the child was nine days old. It had gradually grown more marked from that time. The jugular veins were distended, and there was a systolic murmur heard in the region of the heart. The child was very easily chilled. Its digestion was difficult, and when the food did not agree the breathing became difficult, and there was violent beating of the heart with increased lividity. The child was seen once or twice by Dr. Peacock, and then not for several years until its last illness. This began on August 8 with earache and restlessness, followed by loss of power in the right hand. In the afternoon of the 9th he had violent shaking of the right arm and hand, and the following morning of the right leg also, with twitching of the right side of the face, and the right arm and leg were powerless afterwards. On the evening of the 12th the temperature was 101°; on the 22d he had a general convulsive fit, followed by partial stupor; on the 23d he recovered consciousness and could speak, though he did not articulate distinctly; on the 24th he had a second attack of convulsions, after which he was entirely unconscious, and he gradually sank till he died at 11 P.M. on the same day. He was six years and nine days old at the time of his death.

EPITHELIOMA OF THE RECTUM REMOVED AFTER A NEW PLAN WITHOUT INJURING THE SPHINCTER ANI—RECOVERY.—The following case occurred under the care of Mr. Rouse, at St. George's Hospital, and is reported in the *Lancet* (vol. ii., 1880, p. 540). The patient, who was 64 years of age, showed an epithelioma of the rectum of about six months' growth, situated on the left side of the bowel, about one inch above the anus. The growth was flat, sessile, about the area of half a crown, and limited to the mucous membrane and the submucous tissue. The deeper parts felt apparently uninvolved. The operation was as follows. A curved incision an inch and a half in length was made, just outside of the external sphincter and parallel to the outline of that muscle. The skin was then dissected upwards and outwards for a short distance, so that the outer circular fibres of the sphincter were exposed. The muscle was then drawn over towards the middle line. By introducing the finger into the rectum the growth was pressed into the external wound, and it was then cut out, together with that part of the wall of the rectum to which it was attached. In this way an opening about the size of half a crown was made through the bowel. After the closure of the skin-wound but a small cavity could be felt, corresponding to the former situation of the growth. The hemorrhage was very slight. Opium was given in order to keep the bowels confined for some days. The recovery was almost uninterrupted. For some few days slight feculent discharge took place from the wound, but after about three weeks this had completely ceased, and the patient then had entire control over the contents of the rectum. As a matter of fact, scarcely any fæces escaped, but the suppuration resulting during the granulation and closure of the cavity possessed a fecal odor. When the patient left the hospital, about a month after the operation, the power of the sphincter was perfectly normal. The general symptoms were much relieved.

The advantages of this method of operating are, remarks Mr. Rouse, obvious, and there seems no reason why it should not be applicable to growths of a much larger size. The advantage of preserving the sphincter intact is evident, and this operation might be advantageously substituted for excision of the lower end of the bowel. Instances have been recorded where that operation has not been followed by incontinence of fæces; but the operation above detailed is certainly preferable.

PREPARATIONS OF TAR.—Dr. Gérard (*Le Progrès Méd.*, 1880, p. 784) thinks that emulsions of tar are the best preparations of this substance for medical use, both internally and externally. Here the tar is suspended in a state of minute subdivision. The old *eau de goudron*, or tar-water, of the French Codex, was too readily alterable to form a trustworthy and efficacious medicine, and in addition the tar existed in such minute quantity that, although exalted at one time as a panacea, it fell out of use after a while altogether. Meantime, efforts were constantly made to obtain a more concentrated solution of tar. Sometimes these took the form of solutions in alkalies, and at other times of ordinary solutions concentrated. But the addition of an alkali changes the effect of the tar, and the mixture thus made cannot take the place of tar alone, while in the act of maceration or concentration in a water-bath the volatile and

bitter constituents of the tar are lost. In consequence of this difficulty in making satisfactory solutions of tar, M. Lebœuf devised a process by which an emulsion containing the active ingredients of tar could be obtained. The substance used for this purpose is saponin, a perfectly neutral substance, prepared, as is known, from the *quillaya saponaria*. As contained in the tincture of the root, which is used in making the emulsion, not enough saponin can be taken to produce toxic effects. It is not difficult to take, and is comparatively easy of digestion; while the capsules of tar are apt to embarrass digestion and cause headache.

Autopsies in the Parisian Hospitals.—Recent French laws relative to the disposal of the dead appear to bear rather hardly on the interests of scientific medicine. In the first place, interments may not take place until twenty-four hours after decease. This is to prevent burying alive, and is thus far good. But the "ordonnance" concerning autopsies, embalmment, etc., goes on to forbid any such operation until twenty-four hours have elapsed after decease. It is also necessary to place before the authorities evidence that the operation, whatever it may be, is authorized by the family. These regulations are said not to be applicable to operations practised in hospitals or legal dissecting-rooms. Further regulations, however, are provided for these. Thus, professors and hospital surgeons may proceed to open a cadaver, but may not dissect it. Hospital physicians, other than the clinical professors, may make autopsies on only one-third of the patients dying under their care. Corpses reclaimed by their families may not be examined. Autopsies may not be made until twenty-four hours have elapsed since death (!). In some cases this law against inhumation before twenty-four hours, if carried out strictly, may do harm, *e.g.*, in persons dying with smallpox; while in cases where autopsy may be desired, a delay of twenty-four hours may cause such alteration in the tissues as to disguise entirely the early post-mortem appearances.

Fatty Tumor beneath the Scalp.—Mr. Sydney Jones (*Lancet*, vol. ii., 1880, p. 587) reports the case of a boy of 20 months, on whose scalp, at the age of two months, a tumor the size of a marble was noticed. It increased at first slowly, but later rapidly, until, when the child was brought to Mr. Jones, the tumor was the size of half an orange. It occupied the median line, was over the sagittal suture, and extended backwards to the situation of the posterior fontanel. Pressure caused no diminution in size, head-symptoms, or other inconvenience; crying made it tighter and more prominent. The margin was raised, and harder than the rest of the tumor. A small portion of the tumor removed with the grooved needle showed fatty particles under the microscope. The tumor was transfixed longitudinally and removed. It was adherent in some places to the scalp, and was accurately moulded to the pericranium, from which it was pulled off. The tumor weighed two and a half ounces, and consisted of pure fat. The wound healed without trouble.

Locomotor Ataxy in Various Members of the same Family.—At a recent meeting of the Clinical Society of London (*Lancet*, vol. ii., 1880, p. 618), Dr. Gowers brought forward a series of five cases of locomotor ataxy in members of the same family, three of whom were exhibited. The father was healthy, but his brother and two half-cousins were insane. The mother had suffered in early life from cholera. The family consisted of nine children: (1) a son, aged thirty-nine, with well-marked ataxy, which commenced at nineteen. He is just able to walk with crutches. There is incoördination in the arms, with affection of articulation. Sensation to touch is normal, that to pain in the legs is increased. The knee-jerk is lost. (2) A girl, who died of fever at ten years old. (3) A son, aged thirty-five, healthy. (4) A son, aged thirty-three, healthy. (5) A girl, aged twenty-nine, in whom the affection commenced at eighteen. She can now scarcely stand; there is weakness in the legs, as well as ataxy, and also incoördination in the arms. Speech is affected, sensation is normal, the knee-jerk lost. (6) A son, aged twenty-six, perfectly well. (7) A son, aged twenty-three, considerably affected. The disease showed itself at nineteen; he is now scarcely able to walk, with ataxy of both arms and legs, and loss of sensation, absence of knee-jerk, and affection of articulation. (8) A son, aged twenty-two, reported to be well, but found, on examination, to be distinctly affected. Articulation is confluent, there is inability to stand with the eyes shut, absence of knee-jerk, and distinct impairment of sensation on the legs to touch. The arms are at present unaffected. (9) A son, aged nineteen, affected in rather a greater degree than the last, with slight unsteadiness of gait, inability to stand with eyes shut, distinct impairment of sensation to touch, absent knee-jerk, unsteadiness in writing, and confluent articulation. Thus, of eight members of the family who have reached adult life, five are affected. The only causal influence discoverable is the neuropathic heredity. Several similar groups of cases have been reported. It is noticeable that none have suffered from pains in the limbs. There is no affection of the iris or of the optic nerve. In previously reported cases where autopsies have been had, the lesions found have been similar to those of ordinary ataxy.

Blue Spots on the Skin Symptomatic of Phtheiriasis Pubis.—The occasional occurrence of blue, slate-colored, or dark spots on the skin, of a mysterious character, has long

been exercising the minds of our French brethren, who have written long articles to show the exact significance of these mysterious patches and the mode of their production. From an investigation of two hundred and fifty cases in 1878, Moursou found that they were invariably accompanied by crablice. Recently, Dr. Duguet (*La France Méd.*, 1880, p. 610) has produced these blue spots by inoculating various portions of the skin with a paste made of the pediculi ground up with water. The day after inoculation very well marked blue patches, the size of a ten-cent piece, were noticed at each point operated upon. These patches lasted several days, then began to fade, and by the end of ten days had entirely disappeared.

PROGRESS IN THE TREATMENT OF STRICTURE OF THE URETHRA.—Some remarks were made on this subject by Sir H. Thompson, at the annual meeting of the British Medical Association, in Cambridge, August, 1880. As illustrations of this advance during the last thirty years in England, the doctor mentioned five points:

1. A general recognition of the principle that a delicate and gentle manipulation of any instruments in the urethra is alone trustworthy or permissible, in the place of that which was formerly greatly prevalent, viz., that urethral obstruction might often be overcome mainly by force.

2. The substitution of very pliable and taper instruments for silver and stiff gum-elastic instruments in much of the treatment, both in ordinary and in continuous dilatation.

3. A more general acceptance of the doctrine that, given time, patience, and gentle handling, very few strictures should be met with which cannot be fairly and successfully traversed by an instrument passed through them into the bladder. At the same time, an undoubted improvement is to be noted in the mode of operating for those exceptional cases in which the surgeon fails to accomplish that object.

4. A more general acceptance of the doctrine that dilatation of the urethra, whether with or without incision, may be carried with advantage to a somewhat higher degree than had for some time previously been regarded as desirable.

5. The substitution of internal urethrotomy in some form for the application of caustics, and for external urethrotomy on a guide.

Each of the topics named is then considered somewhat in detail. In connection with the subject of the "calibre," or "diameter," of the urethra, or the amount of its dilatability, he refers to Dr. Otis's revival of the theory of "the large diameter of the urethra." He records his sense of the value of this point, but he adds that "it is a very easy thing to damage irreparably some individuals by overdistending the urethra." Thompson also opposes another doctrine which is associated with the preceding, viz., that stricture of the urethra is permanently cured by complete division of all the diseased tissues affecting the passage. In speaking of the many methods of performing internal urethrotomy, he says that the principles which govern a sound procedure are more essential points for the surgeon to discover and to teach than a consideration of small details. These principles he briefly states as follows. 1. The necessity for a physical examination before operating, to detect and estimate the narrowed portions of the urethra. This is best accomplished, in his opinion, by means of a series of metal bulbs on slender stems, taking care not to regard as changes of disease those points at which the urethra itself is naturally only slightly dilatable. These bulbous exploring sounds he invariably used, advocating them as essential to diagnosis, in his first work, twenty-six years ago. He still prefers them to any others, as safer, less irritating, and not less efficient than more complex instruments which have been devised. 2. The necessity for accomplishing a complete division of all the morbid tissue constituting the stricture, by an incision carried through it, no matter what part of the urethra, or how much of it, is involved in the disease. As a general rule, he thinks, this is most efficiently done by a slender blade, carried beyond the stricture and made to cut from within outward, this latter proviso being, however, an open question. The important point is that any alleviation of the patient's condition attained by operation will be transitory if any part of the narrowing be left undivided. 3. He regards it as essential, after such division, to place at once a full-sized catheter for some hours in the bladder, to insure a free outlet for the urine, and prevent all possibility of extravasation of urine into and through the incisions thus made. 4. The necessity for passing full-sized bougies subsequently, at occasional intervals, in order to effect free distention of the walls of the urethra, which lie in almost constant apposition, and so to prevent reunion of divided surfaces by the first intention. Finally, he declares that the great desideratum of the present time unquestionably is the discovery of a mode of treatment which shall permanently restore to the strictured passage its original dilatability; and he adds that a thoughtful consideration of the pathological condition which constitutes organic stricture does not embolden him to hope that such a result can be insured by the application of any principles of action at present known to us.—*The British Medical Journal*, August 28, 1880; *New York Medical Record.*

CASTRATION FOR HYSTERIA.—Under this title the *Lancet* (vol. ii., 1880, p. 588) gives a curious story of an hysterical patient who had suffered for some years from obstinate vomiting, accompanied by severe ovarian pains. She became extremely weak, and finally con-

sented to spaying as the only hope. The operation, which was performed under chloroform with "antiseptic precautions," was a mockery, the skin only being incised. A perfect cure, however, of all the hysterical symptoms resulted.

ERRORS OF CLINICAL THERMOMETERS.—It may not be generally known that the clinical thermometers in common use are not to be relied upon within one-half a degree Fahrenheit. Thermometers having a Kew certificate less than six months old are excepted. A thermometer which may be accurate when first made may afterwards change, and new thermometers should be laid aside for two years before they are fully graduated. The error is in an increase of reading; eighteen months may permit a rise of .4° Fahrenheit.

GASTROTOMY.—Dr. Elias reports in the *Deutsche Med. Wochens.* (No. 25, 1880) a very successful case of gastrotomy in a man aged 48, reduced to the last extremity by stricture of the œsophagus. The collapsed stomach was with difficulty found during the gastrotomy; it was fastened to the abdominal wall and opened on the fifth day, when union was complete. Twelve days after the operation the patient was able to go out, and the nutrition of the body rapidly improved.

REMOVAL OF THE ENTIRE SCAPULA.—Mr. Bellamy, of Charing-Cross Hospital, recently removed the scapula for an encephaloid growth involving the whole bone. The hemorrhage was but trifling, owing to the perfect command obtained over the subclavian artery by compression through a primary incision in the integuments. A week after the operation the patient was progressing satisfactorily.—*Lancet*, vol. ii., 1880, p. 588.

TREATMENT OF THE VOMITING OF PREGNANCY BY ETHER SPRAY.—Dr. Lester writes to the *New York Medical Record* giving a case of uncontrollable vomiting, in which, after everything else had been tried, he conceived the idea that freezing the pneumogastric near its origin might possibly control the intensely-irritable stomach. In view of this fact, he at once commenced the process of freezing the nerve in its track, under the sterno-mastoid, on both sides of the neck alternately. The effect was, indeed, remarkable, for decided benefit was observed after the first trial, and during the first twenty-four hours the woman vomited only four times, and in three days the vomiting ceased entirely. This process was performed every two hours the first day, and at much longer intervals during the second and third days, and continued ten minutes at each sitting. The pulse was closely observed.

STATE OF THE GANGLIONIC CENTRES IN BRIGHT'S DISEASE.—Drs. Longstreth and Da Costa, in a paper on this subject in the *American Journal of the Medical Sciences* for July, 1880, conclude as follows:

1. That in Bright's disease, especially in the contracting kidney, there exists a constant lesion of the renal plexus.

2. That whilst this lesion might be looked upon as forming part of a general process of degeneration, in connection with the kidney disease, we think it is the cause of the renal malady, and precedes the degenerative changes.

3. That the diseased condition of the ganglia furnishes the clue to the alterations of the vessels of the kidneys.

4. That similar changes producing similar results may exist in other ganglia; for instance, in the cardiac plexus, explaining the hypertrophy of the heart.

MISCELLANY.

ACTINOMERIS HELIANTHOIDES.—The root of actinomeris helianthoides is from the size of a quill to that of a knitting-needle, and has an oil and perhaps a resin in it, giving it the taste and somewhat the smell of turpentine. It has long been used by the people of Upper Georgia in dropsy, under the name of diabetes weed. Dr. I. G. M. Goss says that he has used it in several obstinate cases of dropsy and in several cases of chronic cystitis with fine effect; also in calculous affections and in chronic inflammation of the entire urinary tract. He gives it in the form of a tincture, one or two drachms to a dose, as a diuretic, or as an infusion, in doses of one-half to one ounce, repeated every hour or two. It may be tinctured in sweet spirit of nitre, eight to sixteen ounces of nitre.—*New York Medical Journal.*

QUININE-PRODUCTION IN INDIA.—Experiments in acclimatizing the cinchona-tree in India have been entirely successful, and there are now, in various stages of growth, probably millions of cinchona-plants already yielding the Peruvian bark so plentifully and perfectly that the price of quinine has fallen in Ceylon and other parts to about eighty cents an ounce. There appears reason to believe that, sooner or later, quinine may be exported from that country.

CONVERGENT SQUINT.—Dr. C. A. Bucklin (*New York Medical Record*, vol. xviii., Nos. 4 and 16), in an article on the cause, results, and treatment of this deformity, recapitulates as follows:

1. All persons squint who can see by doing so and cannot see without. The degree of their hyperopia or the strength of their internal muscles can be what they may.

2. Every squinting eye that is not due to *paralysis* of a muscle can be straightened.

3. Never fail to satisfy yourself, before leaving an eye you have tenotomized, that the mobility of the eye is sufficient.

4. The use of one eye is usually lost in convergent squint; consequently its earliest symptoms should receive prompt attention.

RED PERSPIRATION IN THE AXILLÆ.—A correspondent of the *New York Medical Record* of October 30, referring to a case of this sort recently reported in that journal, says that he is himself a subject of the same phenomenon. Although he perspires greatly in summer, the red perspiration occurs only now and then, he thinks, after taking an unusual amount of exercise. He has never known the red perspiration to occur except in summer. The hairs of the axillæ are matted together with a honey-like secretion, which is quite sticky.

THE MARRIAGE AGE IN DIFFERENT COUNTRIES.—Austria, 14 years for both sexes; Germany, the man at 18, the woman at 14; Belgium, the man at 18, the woman at 15; Spain, the man at 14, the woman at 12; France, the man at 18, the woman at 15; Greece, the man at 14, the woman at 12; Hungary, Catholics, the man at 14, the woman at 12; Protestants, the man at 18, the woman at 15; Portugal, the man at 14, the woman at 12; Russia, the man at 18, the woman at 16; Saxony, the man at 18, the woman at 16; Switzerland, the man at 14, the woman at 12; Turkey, at puberty.—*Medical Gazette.*

MORTALITY AMONG MEDICAL MEN.—Hecker confirms by his statistics a fact, indeed, already known, that the duration of life among medical men is notably less than the mean. From Escherich's statistics it results that in Bavaria, of 100 individuals, 53 Protestant pastors, 41 professors, 39 advocates or magistrates, 34 Roman Catholic priests, and only 26 doctors reach the age of fifty.

EUCALYPTUS OIL FOR DRESSINGS.—Dr. Schulz, of Bonn, considers that eucalyptus oil offers many advantages over carbolic acid, without its inconveniences. It is a powerful antiseptic, is freely soluble in alcohol and oil, and mixes well with paraffin; its odor also is agreeable. Dressings prepared with this oil are very antiseptic. It may be employed also for spray and washing.

CHANGES OF COLOR IN SKIN AND HAIR.—Smythe (*Archives of Dermatology*, July, 1880) tells of a man of 47 who had, up to his thirty-fifth year, a fair skin, with light hair and dark eyes. About this time his hair began to turn gray, but the hair which did not turn gray turned to nearly a jet-black; his skin at the same time assumed a dark and bronzed hue.

TREATMENT OF SYPHILITIC NEURALGIA.—M. Mauriac treats the neuralgia symptomatic of syphilis with iodoform pills, according to the following formula:

℞ Iodoform powder, 1½ gramme;
Extract and powder of gentian, q. s.

Divide into 20 pills, two or three to be taken daily.

THE London *Lancet* characterizes London as a town "where flowers cannot be made to grow, where sunlight is a rarity, where all we touch is smutty, and where the very statues in the streets succumb to the biting acidity of the atmosphere."

DR. EDWARD SEGUIN died in New York October 28, in the 69th year of his age. He was especially famous for his efforts in behalf of idiots, and is said to have founded no less than eleven schools for their treatment and education in the United States.

WE are surprised to read in the *New York Medical Record* of October 30 that Dr. Austin Flint, Jr., has declined the Chair of Physiology in the Jefferson Medical College. As no vacancy exists in the said chair, our cotemporary must be wool-gathering.

MELOHIAH, a Choctaw princess, died at Hoyt City, in the Indian Territory, the other day, at the great age of 114 years. She had thirteen great-great-grandchildren. She had been addicted to the inordinate use of tobacco for one hundred and five years.

EFFORTS are being made to secure a law in Pennsylvania similar to that in force in New York for the purpose of guarding the inviolability of confessions made to physicians or secrets discovered in the course of medical attendance.

LACTIC ACID IN CHRONIC CATARRH OF THE BLADDER.—Deeke recommends injections of a one-half- to one-per-cent. solution of lactic acid in cystitis with ammoniacal urine.

APPROPRIATE.—We notice a paper on post-partum hemorrhage, by Dr. *Gore*, in the *St. Louis Medical and Surgical Journal* of October 20, 1880.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM OCTOBER 31 TO NOVEMBER 13, 1880.

KING, WILLIAM S., COLONEL AND SURGEON.—His leave of absence still further extended six months on account of sickness. S. O. 240, A. G. O., November 9, 1880.

MEACHAM, F., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for one month. S. O. 234, A. G. O., October 30, 1880.

PATZKI, J. H., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty at Jackson Barracks, La. S. O. 126, Department of the South, October 29, 1880.

HEITZMANN, CHARLES L., CAPTAIN AND ASSISTANT-SURGEON.—The extension of his leave of absence of September 28, 1880, from Headquarters, Division of the Pacific and Department of California, is further extended two months. S. O. 234, c. s., A. G. O.

LAUDERDALE, J. V., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty as Post-Surgeon at Newport Barracks, Ky., and assigned to duty at McPherson Barracks, Ga. S. O. 127, Department of the South, November 1, 1880.

WORTHINGTON, J. C., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for six months. S. O. 241, A. G. O., November 10, 1880.

WOOD, M. W., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty at Fort Brady, Mich. S. O. 201, Department of the East, November 12, 1880.

SATTERLEE, RICHARD S., LIEUTENANT-COLONEL AND BREVET BRIGADIER-GENERAL, Chief Medical Purveyor of United States Army (retired).—Died at New York City November 10, 1880.

PHILADELPHIA, DECEMBER 4, 1880.

ORIGINAL COMMUNICATIONS.

IMPRESSIONS OF VIENNA AS A MEDICAL SCHOOL.

BY ROBERT W. JOHNSON, M.D.,
Baltimore, Md.

So common is it now for American students of all departments to go to Continental or English universities in the hope of gaining knowledge they think unattainable on this side of the Atlantic, that it may not be uninstructive to those who seek medical advantages abroad to learn a few of the particulars of the Vienna hospitals and their modes of teaching.

Having had the good fortune to be there for some months, and deploring my bad luck in not remaining as many years, I mean in this paper to lay before men similarly situated some hints that will aid them, I hope, in spending their time there to the greatest advantage; for I found that it takes the average man about a month, even if familiar with German, to acquaint himself sufficiently with the various workings of the larger institutions to put in his labor where he will reap the greatest reward. Before entering on the subject proper of this paper, it may be asked, "Is it worth while for a physician to go abroad? Will he be compensated for the time he spends and the expense incident to the trip? Can he not learn just as much of his profession in our own great cities?"

The first question may be answered in the affirmative, if he can afford to put the actual money down, even with an economical pinch, for the benefit is to the man as much as to the doctor, and his education is brought nearer completion by the civilization and traditions, the history, arts, and literature, of the Old World, and he is less of a machine than are so many backwoodsmen, who with but little previous instruction pass the atrophic examinations of some two-year medical school, whose "Dr." is synonymous with debtor, and who, it may be, finally reach a professorship in a similar institution or seek another level in pot-house politics.

Can one learn as much in America as abroad? Such is the never-ending expanse of knowledge in medicine and its ramifications that we can learn in one city far more than most of us can retain, but it must be conceded to Vienna that her accommodations for learning exceed aught that I have seen either in London or in our own country. There is a greater centralization of our science, a community of teachers, a classification of the three thousand patients that supply the beds and dead-house of the "Allgemeine Krankenhaus" or general hospital, than is afforded, to the best of my knowledge, under any other roof in the world. In six months one can learn more of the specialties taught there than elsewhere in two years, unless he have more than ordinary privileges. Just as an author seeks a library to refresh his memory or refer to authorities, so it behooves us when learning disease to seek those places where the best types and opportunities obtain; where the books of nature unfold her laws either on the tables of stone in the dissecting-room or in the equally legible physical examination in the ward.

This centripetal institution contrasts most favorably with some centrifugal schools at home, which, like some theatres, possess one or two stars or fine properties, while the other attributes of success are lamentably wanting. *Eclat*, never a just incentive to foreign study, does not now exist, for our countrymen have been so much abroad, and have seen so many of their fellow-citizens go, that a physician must have a further and better claim on the confidence of the laity than, to use their own expression, to have "walked the hospitals of Paris or Edinburgh." Berlin, Edinburgh, London, Paris, and Vienna are the chief medical centres that divide the attention of Americans; and while Dublin with the obstetric department of the Rotunda, Strasburg with pathology, and Halle with Volkmann to preach and practise Mr. Lister's method almost better than that great surgeon himself, all claim a share of the much-desired American patronage, with concomitant Yankee gold, still the above-mentioned cities almost monopolize scientific birds of passage.

From personal experience I can only compare Vienna with London, and I shall endeavor to show why the Austrian capital is preferable. "Figures do not lie;" but unless one knows all the circumstances entering statistical arithmetic, they may

be omitted with advantage; so, should the reader expect a series of vulgar fractions or a rule of three in which the physician, result, and patient are the known quantities and nature plays her customary rôle incog., he must look elsewhere for his gratification. Suffice it to say that the available beds in Vienna hospitals reach at least four thousand, and the number of patients, including various dispensaries, send several times that number to the clinics. The great feature about Vienna is, that about three thousand of these beds are in one hospital and furnish material for lectures on every specialty that is anywhere taught. There are two distinct classes of students attending the almost equally distinct classes of teachers, though of course there are exceptions, no rule preventing a man from listening to whomsoever he please.

First, let me mention the lectures, theoretical and clinical, which are given by the professors, more especially to men seeking a degree from the University. The second division of clinics and courses is more patronized by our fellow-countrymen. These practical courses are a series of thirty or forty demonstrative lectures in which there is an explanation of the subject in hand, together with a selection of cases which illustrate its various phases, and each man in the class has a chance to examine the patient and appreciate for himself the actual lesion described by the instructor. The number of students in some is limited by the accommodations or the intricacy of the topic, and it is always advisable to secure a class that is not overcrowded, for the more special attention one gets the more at home he will be with the subject. The teacher is most often the assistant of the professor, attends to his wards, and consequently one gets from him diagnosis and treatment of the first quality, though it comes second-hand. Instruction is not limited to the living patient; there are valuable courses also on anatomy, operations on the cadaver, pathology, microscopy, etc. They are often so arranged that a man can fill the whole day with separate subjects, each lecture lasting one hour and in close proximity to each other, thus avoiding loss of time in transit; but beware of the literary dyspepsia that a young and enthusiastic scientific gourmand can easily acquire in such "a feast of reason and flow of soul." He will find a simple and nutritious diet far more conducive to his growth in professional knowledge.

Not a few of the instructors speak English fluently, and one went so far as to give a course in English; but it is no small benefit to obtain a knowledge of German, and though it may be pleasing to hear one's mother-tongue, it is far more profitable to wrestle with the vernacular, as it is only by unalloyed perseverance, and a perfect complacency in regard to errors, that its difficulties can be overcome. The plan I found most beneficial, and one that I would recommend to medical students who are obliged to leave home to attend lectures, is to board with an intelligent German family, a Hanoverian preferred, with young children who speak simply, and learn from them by daily practice at table, and on every other occasion, as much of the desired language as possible.

The man who does this not only overcomes the hesitancy natural at the outset, but picks up a great many phrases and idioms, as well as the pronunciation, which is the "pons asinorum" to even good German scholars who can read readily.

Should he desire to study and read German, he will find it greatly advantageous to invest in little plays, for in them we get every-day expressions and colloquial phrases, avoiding the ridicule which we bestow on a foreigner who talks Shakspeare or writes *à la* "Faërie Queene." One thing, however, you may rely on, and that is the most stolid indifference to mistakes, for I have seen the saleswomen look as sober in a bakery when I asked for a countess instead of a cake as though they had been agents for "Burke's Peerage" instead of dispensers of the delicious *mehlspeisen* for which Vienna is justly noted.

Those who begin to study German in Europe find the best in Hanover or Brunswick; but let not the heart of the student be troubled because his ears, tuned to polished pronunciation, fail to receive the slushy accents of Viennese dialect. He will soon learn that "heit" means heute, and the mädl will be no less fair because she has fallen from the more dignified and high estate of mädchen. While German is essential to understanding the lectures, you need not fear to go to Vienna without it, for by taking a few of the practical courses, where the hands are used as much as the tongue in study, you can acquire a knowledge of the language in the kindergarten

style that will soon render you fit to sit at the feet of any Gamaliel there; nor is this less easy to see when you remember that, in spite of German individuality, a great many terms in medicine are common to all languages, while the subject-matter should be familiar to you to a certain extent before you leave home.

Not far from the General Hospital are the Polyclinic, a large dispensary with separate rooms for clinics in different branches, and the St. Anna's Children's Hospital. The material at the former is transitory; at the latter there are beds where the more serious diseases of childhood can be observed.

Rudolph's Hospital and several others might be enumerated, but the above are the principal. In my *résumé* below I shall mention the men I would recommend as instructors, including gentlemen at these institutions as well as those of the larger General Hospital. There is such an opportunity for choice in all branches that I will underscore those whom my friends or myself found satisfactory, in order that the student visiting Vienna may not lose time in making his selection; but it must not be understood that the men not emphasized are necessarily secondary, because with many of them I did not come in contact.

The title of professor there is not, as it is so often with us, a reflex one, if I may use that expression entirely independent of brain, but it means something when conferred and not assumed, so that I feel peculiarly humble in criticising those who enjoy that distinction, though even in Olympus there is a choice. It is well, too, for a man to hear them all a few times, and decide for himself, since the clinics by professors when compared to the courses are not numerous, and it adds much to the pleasure of reading a scientist's deductions if we have seen him face to face in the flesh.

Below will be found the official schedule of the lectures, together with the number of hours devoted per week to each class; but the reader must know that changes continually occur, and the catalogue may be found wanting even during the year for which it is intended; but, as it gives a nearer approach to facts than can be elsewhere obtained, it is offered with such amendments as the user will find necessary when there.

SCHEDULE OF LECTURES IN THE UNIVERSITY OF VIENNA (MEDICAL DEPARTMENT) FOR THE WINTER SEMESTER 1879–1880.

Time. A.M.	Subject.	Hours per week.	Instructor.	Remarks.
8 – 9	Theoretical and Practical Ophthalmology	5	*Prof. von Jaeger.*	
	Auscultation and Percussion	5	*Dr. Kolisko.*	
	Diagnosis of Eye Diseases	5	*Dr. Bergmeister*	Especially diseases of anterior portion.
	Gynæcology	5	Dr. Schlesinger.	
	Throat and Chest Diseases, Polyclinic	6	*Prof. Schnitzler.*	
	Practical Course in Endoscopy, Polyclinic	3	Prof. Auspitz.	
8 – 9½	Hydro-Therapeutics	4½	Dr. Winternitz.	
8 –10	Special Medical Pathology—Therapeutics and Clinic	10	*Prof. Duchek.*	
	" " " " "	10	*Prof. Bamberger.*	
	" " " " "	10	Prof. Loebel.	
	Clinic for Skin Diseases	10	*Prof. Hebra.*	
	Special Surgical Pathology and Therapeutics	10	Prof. Dittel.	
8½–10	Instruments and Bandaging	3	Prof. Cessner.	
9 –10	Human Anatomy—Bones, Muscle, Intestines	6	Prof. Langer.	
	Casuistic Gynæcology	1	Prof. C. von Braun.	
	" "	1	Prof. Spaeth.	
	Eye Clinic	5	Prof. von Jaeger.	
	Electro-Therapeutics	5	Dr. Schultz.	
	Theoretico-Practical Ear-Surgery	5	*Prof. Gruber.*	
	Diseases of Women	5	*Dr. Bandl.*	
	Laryngoscopy and Throat-Therapy	5	*Prof. Schnitzler.*	
	Physical Diagnosis—Pneumato-Therapy	1	" "	
	Syphilis and Skin, Polyclinic	5	*Prof. Auspitz.*	
9 –11	Lessons in Obstetrics	10	Prof. G. Braun	For midwives.
	Psychological Clinic	4	Prof. Schlager.	
	Diseases of Prostate and Urethral Stricture	4	*Prof. Dittel.*	
	Gynæcological Dispensary	2	Dr. Chrobak.	
	Practical Exercise in Pathology and Histology	6	Prof. Klob.	
10 –11	Pharmacy	5	Prof. Vogl.	
	Gynæcological Course	5	Dr. Funk.	
	Nervous Diseases and Therapeutics	5	Dr. F. Fieber.	
	Skin Diseases	5	*Prof. Kaposi.*	
	Internal Medicine, Polyclinic	3	Dr. Winternitz.	
	Diet-Cure	1	" "	
	Embryology	2	*Prof. Schenk.*	
	Pathological Anatomy of Respiratory and Circulatory Organs	3	Prof. Klob.	
	Laryngoscopy	6	Prof. Schrötter.	
	Diseases of Bones and Joints	3	Dr. Weichselbaum.	

Time. A.M.	Subject.	Hours per week.	Instructor.	Remarks.
10 –11	Gynæcology	6	*Dr. Rokitansky.*	
	Lectures on the Eye	2	Dr. Hock.	
10 –11½	Respiratory and Circulatory Diseases	3	*Dr. Heitler.*	
	Pathology and Therapeutics of Consumption	3	Dr. Bettelheim.	
	Minor Surgery with Practice	5	*Dr. Hofmokl.*	
10 –12	Surgical Clinic	10	*Prof. Dumreicher.*	
	" "	10	*Prof. Billroth.*	
	Theoretical and Practical Ophthalmology	10	Prof. von Arlt.	
	" " "	10	Prof. von Stellwag.	
	Structure and Action of Central Nervous System	2	Prof. Meynert.	
10½–11½	Polyclinic of Eye Diseases	5	Dr. Hock.	
	Diseases of Children	6	*Dr. Monti*	Lecture and clinic.
11 –12	Physiology and Higher Anatomy	5	Prof. Brücke.	
	Veterinary Course	3	Prof. Röll.	
	Diseases of Children	5	*Prof. Widerhofer*	Lecture and clinic.
	Laryngo-Rhinoscopy	5	Prof. Störk.	
	Lectures on Diseases of Female Genitals	2	Dr. Funk.	
	Diseases of the Kidneys	2	Dr. Breuer.	
	Manikin-Practice for Midwives	5	Drs. Felsenreich and Borns.	
	Auscultation and Percussion	5	Prof. Schrötter.	
	Demonstrations of Pathology, Anatomy, and Post-Mortems	5	*Dr. Chiari.*	
	Pathological Anatomy of Syphilis and Tuberculosis	1	" "	
	Forensic Psycho-Pathology	2	Prof. Leidesdorf.	
11 –12½	Orthopædic Surgery	1½	*Dr. Nicolodoni.*	
	Diseases of Stomach and Bowels	1½	Dr. Osor.	
11 – 1	Physical Examination	4	Prof. Stern.	
	Surgical Course (*Propädeutic*)	4	Dr. K. Fieber.	
	Male Genito-Urinary Diseases	4	Dr. English.	
	Electro-Therapeutics	2	Prof. Benedikt.	
	Operative Dentistry	2	Dr. Steinberger.	
11½–12½	Diseases of the Urinary Organs	5	*Dr. Ultzman*	With analysis of urine.
11½– 1 P.M.	Diseases of Brain and Spinal Cord	1½	Prof. Benedikt.	
12 – 1	General and Special Pathology, Anatomy, and Histology	5	*Prof. Heschl.*	
	Clinic on Nervous Diseases and Psychology	5	*Prof. Meynert.*	
	Pathology and Treatment of Nervous Diseases	5	Prof. Rosenthal.	
	Aural Surgery, with Cases	5	*Prof. A. Politzer.*	
	Operative Surgery on Cadaver	6	*Dr. Hofmokl.*	
	Surgical Bandaging	5	*Dr. Nicolodoni.*	
	Percussion and Auscultation	3	Dr. Rollet.	
	Practice in Diagnosis and Treatment of Nervous Diseases	5	Prof. Benedikt.	
12 – 1½	Medical Physics	4½	Prof. Schwanda.	
12 – 2	Gynæcologico-Obstetrical Clinic, with Treatment of Infantile Disease	10	*Prof. K. Braun.*	
	Gynæcologico-Obstetrical Clinic, with Treatment of Infantile Disease	10	*Prof. Spaeth.*	
	Exercise in Pathological Histology	14	Dr. Weichselbaum.	
	Operative Gynæcology	6	*Dr. Bandl.*	
12½– 1½	Treatment of Children	5	Dr. Hüttenbrenner.	
	Diseases of Children	3	Prof. Politzer.	
	Treatment of Children	3	Dr. Eisenschitz.	
1 – 2	General Pathology	5	*Prof. Stricker.*	
	Histology	3	Prof. Wendl.	
	Demonstrations out of the Domain of General Pathology	1	" "	
	Lectures on Health-Resorts	2	Prof. Seegen.	
	Physiology and Pathology of the Central Nervous System	3	Dr. Oberstriner.	
1 – 2½	Practical Histology	3	Prof. Wendl.	
	Practice in Microscopy	9	Prof. Exner.	
1 – 3	Genito-Urinary Surgery	4	Dr. Jurié.	
	Medical Jurisprudence	5	Prof. Hofmann.	
	Pharmacology	3	Prof. Vogl.	
	Symptomatology	2	Prof. Stern.	
	Practical Use of the Microscope	3	Prof. Schenk.	
	Polyclinic of Eye Diseases	5	Dr. Reuss.	
	Diseases of the Skin	5	*Dr. Hebra.*	
	Special Pathology and Treatment of Internal Diseases	5	Prof. von Stoffella.	
	Diagnosis of Internal Diseases	5	Dr. N. Weiss.	
2 – 4	Practical Hygiene	10	Prof. Nowak.	
	Treatment of Eye Diseases	10	Prof. Mauthner.	
	Practical Hygiene	10	Dr. Kratschmer.	
2 – 6	Practical Medical Chemistry	20	Prof. Ludwig.	
3 – 4	Pathological Dissection	3	Prof. Heschl.	
	Medico-Legal Instruction	2	Prof. Hofmann.	
	Diseases of Children (Youth)	6	Dr. Fürth.	
	Skin Disease and Syphilis	5	*Prof. Neumann.*	
	Vaccination, Suckling, and Nurse-Diseases	2	Dr. Fridinger.	
	Operative Dentistry	2	Dr. Zsigmondy.	
	Dental Surgery	3	Dr. Scheff.	
	Experiments on the Mechanism of Wounds	3	Dr. Schlemmer.	
3 – 5	Dissections and Demonstrations	14	Prof. Langer.	
	Theoretical and Practical Use of the Ophthalmoscope, and Eye-Operations	10	Prof. von Jaeger.	
	Diseases of the Skin	2	Prof. Wertheim.	
4 – 5	Clinic for Syphilis	5	*Prof. Sigmund.*	
	" "	5	Prof. Zeissl.	
	Physiological Psychology	2	Prof. Exner.	

Time. P.M.	Subject.	Hours per week.	Instructor.	Remarks.
4 – 5	Sphygmography	1	Dr. Winternitz.	
	Practice in Examining Patients	1	Prof. Schlager.	
	Lectures on Children	3	Dr. Hauke.	
	Symptomatology ("des Irreseins")	2	Dr. Weiss.	
4 – 5½	Diseases of Stomach and Intestines	1½	Dr. Oser.	
	Diseases of the Ear	12	Dr. Urbautschitsch.	
5 – 6	Epidemiology	4	Prof. Drasche.	
	Special Medical Pathology and Therapeutics	2	" "	
	Obstetric and Gynæcological Operations	5	*Dr. Pawlik.*	
	On Cadaver	.....	*Dr. Welponer.*	
	Systematic Lectures on Gynæcology	4	Dr. Massari.	
	Venereal Therapeutics	2	Dr. Kohn.	
	Syphilis	3	Dr. Vajda.	
	Higher Mathematics for Physicians	3	Dr. von Fleischl.	
	Physiological Consultation	2	" "	
	Internal Medical Percussion and Auscultation	5	Dr. Bettelheim.	
5 – 6½	Physiological and Pathological Chemistry	3	Prof. Ludwig.	
	Mental Diseases	4½	Prof. Leidesdorf.	
	Operative Surgery	3	Prof. Saltzer.	
	" "	3	Prof. Mosetig-Moorhof	
6 – 7	" "	6	*Dr. Nicolodoni*	Also give courses on bandaging, fractures, and plastic surgery.
	" "	6	Dr. Wölfler	
	" "	6	Dr. Mikulicz	
	" "	6	*Dr. Holl*	
All day.	Anatomico-Physiological Work for Beginners	.....	Prof. Brücke.	
	Course in General Chemistry	.....	Prof. Ludwig.	
	Course in Embryology	.....	*Prof. Schenk.*	
	Teeth-Filling and Dental Technics	.....	Dr. Zsigmondy.	
	Work on Pathology and Physiology of Central Nervous System	.....	Dr. Meynert.	
According to agreement.	Special Treatment of Blennorrhagic Affections of Genito-Urinary System	2	Dr. von Vajda.	
	Practice in Diagnosis	5	Prof. Stern.	
	Fractures, Luxations, etc	5	Dr. English.	
	" "	5	Dr. K. Fieber.	
	Surgical Bandaging	5	" "	
	Surgical Anatomy and Operations	5	Dr. Jurié.	
	Physical Diagnosis	5	*Dr. Heitler.*	
	Practice with Ophthalmoscope	5	Dr. Hock.	
	" " "	5	*Dr. Fuchs.**	
	Course on Syphilis	5	Dr. Mrazek.*	
	Course on Operations on the Eye	5	*Drs. Denk* and Borysiekiewicz.**	
	Skin Disease	5	Dr. Jarish.*	
	Diseases of the Ear	5	Dr. Poilak.*	
	†"Touch Course"	6	*Dr. Pawlik.*	
	" "	6	*Dr. Welponer.*	
	" "	6	Dr. Kucher.	
	" "	6	Dr. Schauta.	
	Operative Obstetrics on Cadaver	5	Dr. Kucher.	
	" " "	5	*Dr. Schauta.*	
	Methods of Chemical Analysis	6	Prof. Ludwig.	
	Physical Diagnosis	6	Drs. Kretchy and Brenner.	
	" "	6	Drs. Lützen, Müller, and J. Kauders.	
	Physiological and Therapeutic Working of Poisons	.....	Dr. von Basch.	
	Instruction on Post-Mortems	.....	Dr. Weichselbaum.	
	On Exudation and Blood-Tumors in the Female Pelvis	1	Dr. Schlesinger.	
	Operative Surgery on Cadaver	.....	Prof. Weinlechner.	
	Surgical Operations and Bandages	.....	Prof. Böhm.	
	Surgery and Diagnosis of Women's Diseases	.....	" "	
	Different Methods of Bloodless Operations	1	Dr. Neudörfer.	
	Treatment of Joint and Spinal Deformities	2	" "	
	Anatomy and Surgery of Genito-Urinary System	.....	Dr. Jurié.	
	Practical Obstetric Operations	5	*Dr. Rokitansky.*	
	State and Domestic Hygiene	5	Prof. Nowak.	
	Senile Changes in the Eye	4	Dr. Feuer.	
	Refraction and Accommodation	6	" "	
	Operative Gynæcology on Cadaver	.....	Dr. Lott.	
	Diseases of Spinal Cord and Peripheral Nerves	6	Dr. N. Weiss.	

By consulting the bulletin-boards at the gates of the hospital and elsewhere on its walls, each change of instructor or formation of new courses can be found, usually a week ahead, though some of the courses are gotten up by a club, or set of students who engage a teacher in advance and admit none but a member of their coterie. The latter courses are never posted, and one must depend on his own or his friends' exertions to obtain advantages of this description.

Let us now give a casual glance at the different general subjects, taking up, first,

Anatomy.—The death-rate, twelve to sixteen daily, supplies material for dissec-

* Omitted in the schedule of the lectures and courses of the University of Vienna.
† Omitted altogether in the catalogue.

tion, and the privilege is not expensive, but unless the student has ample time there or looks forward to establishing himself where he may have few opportunities for anatomical studies, he had better not devote himself to a branch that can be followed at home, where so many of the practical courses are unavailable. The fact, too, that bodies or portions are so easily gotten breeds among some men a careless hacking propensity that does not result in that knowledge acquired where subjects are harder to obtain and more expensive.

The same remarks will apply to normal histology, which should be learned before leaving home, as the individual, and not the class, is the worker in this field. Surgical anatomy is given with the operative course.

Physiology.—The writer is unable to state facts in this department, though Leipsic seems the greater favorite with men taking this specialty.

Pathology has some great masters in Vienna and not a few disciples. One of the most profitable microscopic courses is an hour and a half in the middle of the day, when the results of all the last twenty-four hours' post-mortems are discoursed on and shown, while, at the conclusion, three men, appointed each day, examine under direction the head, chest, and abdomen of an unfortunate, reserved from the skilful hand of the demonstrator for the ambitious scalpel of the student. Through the kindness of the gentleman in charge I obtained quite a number of specimens, which may be mounted at leisure, but I fear they will not be as satisfactory as if I then had had time to devote to this mechanical part of microscopy.

Internal, or what we call the practice of medicine, receives treatment from such able hands as Professors Bamberger and Duchek, etc., while almost each organ claims the attention of men who in some cases have done as much for making the organ conspicuous as its consideration has rendered them famous. In some of the courses of the students each pair has a case to consult over, theoretically treat, and, in case of death, follow to the autopsy-room to verify the criticism of the teacher, thus made doubly careful in expressing his opinion.

Professors Billroth and Dumreicher are the worthy exponents of surgery, and no man can enter the former's clinic without being impressed with that great surgeon's manner. The trouble is that he is so popular that his small operating-room does not admit all of his admirers, while his lectures are delivered in so modest a key that only a favored few can hear them, and so great is the number of assistants that vision, essential to appreciating fine work, is interfered with. The cases that one does see point with emphasis to the magnitude of the study. The perfect coolness of the operator tells eloquently the timid man that with common sense, experience, and study almost anything is possible to one who believes enough in himself to be cool and resolute. The moral force imparted by such a master is worth many an hour spent in stretching one's neck over a classmate's shoulder.

On alternate days the class accompany the professors through the wards and catch a glimpse of that after-treatment which is as essential as the operation to success. By remaining after the hour one often sees cases undisturbed, or may attend the dirty crowd of Jews and Gentiles that come to this surgical Elisha, in many cases to be reminded of Abana and Pharpar, rivers of Samaria, if the Danube, the water of Viennese Israel, should fail to cleanse.

Courses on bandaging, fractures, orthopraxy, operations on almost each organ, besides general surgery on the cadaver, make Vienna no second-rate place for the study of this department, but it must yield to London in the number and weight of surgical reputations, though by the concentration of work it is superior to the latter place, and one has the possibility of learning far more than the potentiality of retaining.

In selecting teachers in this and every other branch, do not avoid popular men, but large classes, for each new entry subdivides the attention due you until it becomes almost a minus quantity, and you are slighted to make room for the ubiquitous "one more."

The number of courses affords ample opportunity to review a subject, while the amount of material secures familiarity with all operations.

One of the disadvantages of Vienna, compared to London, is that only the regular assistants of the professors have the dressing and bandaging of hospital patients, while in the London Hospital, famous for its acute cases, a man may be-

come a dresser for three months at a time, supplemented by a week's residence each month in the hospital, on the payment of a moderate charge.

Nothing can equal this face-to-face acquaintance with cases and responsibility enough to emphasize the salient points.

The Ear.—The average student or nascent doctor has an idea that the ear is rather an excrescence than an organ, too insignificant or too intricate to merit attention beyond that well-balanced point necessary to a diploma; nor does one fully realize its importance until he has heard some aural specialist dilate on the subject.

A few lectures of Professor Gruber or Politzer, or a course with their rapid-speaking assistant, Dr. Pollak, will soon convince the ignorant that a deaf man is in outer darkness. Here let me just mention that the would-be medical Alexander must not be discouraged because he despairs of ever reaching the perfection that each specialist enforces as the only thing worth living for. Some go farther and assert in manner and doctrine that perfection is attainable only *via* a true knowledge of the eye, skin, uterus, or pathology. It is a great comfort, when overcome by the enormity of one's own ignorance, to whisper a quasi-consolation and say, perhaps outside of these specialties these professional Pharisees are as other men.

The eye, in Vienna, receives the attention it merits from such leaders as Professors Arlt, Stellwag von Carion, Jaeger, together with a number of assistants, whose courses cover the whole ground of eye-surgery. In fact, there seem to be too many subdivisions. Thus, one man takes up the diseases of the anterior part of the eye, a second pushes on to the fundus with the ophthalmoscope, while still another gives operations with practice on the eyes of animals and the dead face. It is true each teaches a good deal, but I see no reason for such multiplication, involving extra payments, when at least two of them might consolidate. By taking courses with different assistants one has a chance at the whole repertory of the eye-wards,—an inducement that many seize.

Obstetrics.—There are about ten thousand infants born in the Vienna Hospital per annum, giving three thousand to each ward. Nine thousand are illegitimate; in fact, the offspring of married parents are said to present almost always transversely.

It is a laughable sight to see, on reception evening, a long train of thirty or forty pregnant women sailing like a fleet of Dutch luggers into the examining-room. Here each one is explored by the assistant, discussed *pro re nata*, and, if not near full term, dismissed for a more convenient season. The rest are received, and not a few may be delivered that night. In these receptions the students belonging to the class can all make external examination, a point much more insisted on in Europe than in America, and a few may, after the assistant, verify his diagnosis by internal touch.

Professors Carl Braun and Joseph Spaeth deliver clinics each day, and men who join their classes have the privilege of the receptions and obstetric wards.

Here a knowledge of the ropes will not be amiss to one desiring cases.

Each class is subdivided into sections of four or five, and two of these sections come on every twenty-four hours. A schedule is made out each week, so a man may make his arrangements for his night- or day-watch in advance. Should any of the section appointed for the night fail to put in his card before four in the afternoon, the men who by nine that morning have placed their names on a list provided will be chosen as substitutes for the absent parties. Thus the obstetric owl is often rewarded for his industry by a series of night-watches limited only by his appetite and perseverance.

After one has thus secured his position in the ward, it is his next business to get a case, and when he has signed his name on a blackboard at the patient's head he cannot interfere with, or be disturbed by, others until he relinquishes the case or delivers the child. Complications arouse the assistant unless the attending student is known to have had some experience. Those who join both Braun's and Spaeth's clinics may come on regularly at least once a week, while they may substitute whenever they please. By politeness to the midwives, who are almost all graduates of that department (Prof. Gustav Braun delivering lectures exclusively to them in the third above-mentioned ward), and courtesy with the assistants, all of whom I found to be gentlemen, the student can gain as much obstetric knowledge in Vienna as in Prague or Dublin if he really work.

At one ward there is no reception each day, the other two alternating with it day and night. The day reception is preferred, because one can often tell by 10 P.M. if he will get a case, the liability continuing until daylight in night receptions. It is often a pure matter of luck. Sometimes twenty cases may be born in twelve hours; at others the snoring women alone break on the monotony of the watch.

The babies when born are soon put into a blanket, and a child risks losing its identity with half a dozen others on the same table in different stages of dressing. On Fridays the priest baptizes the result of a week's labor, the nurses finally taking up armfuls of these living sticks to be distributed again to their parents. The "touch-courses," which are given by assistants, are excellent, as one may learn, in twenty-five or fifty lessons, a great deal about the abdomen, cervix, vagina, as well as the positions of the child in the pregnant woman.

They are comparatively very expensive, averaging a half-dollar an hour; but, as there are only three men in a class, there may be some excuse. The best teachers are always in demand, and it is well to see one of them upon arrival, as they make out their lists some time in advance. This rule applies with equal force to gynæcology, as the writer can unfortunately testify.

Few courses humiliate a beginner more than obstetric operations on the cadaver, and few are so satisfactory. The books, so glib about the application of forceps, the simplicity of turning, dwell rightly on the horror of craniotomy, but mere black and white does not impress one with the difficulties in the same way as an endeavor, before a watchful instructor and criticising class, to deliver the dead woman, *per vias naturales*, of one of the numerous still-born children that are thus utilized. The man who takes two courses at least on this important topic from different assistants will glean a variety of opinions as well as experience that he will never regret. One thing, however, it is to be hoped he will never attain, and that is the alacrity with which students and instructors leave the dead house for the lying-in-room to make examinations with hands imbrued with the blood of the dead, and it may be consciences dyed with the blood of the living. I cannot but think that the awful inroads of puerperal fever, and the numerous deaths thereby, arise largely from this criminality in attempting to satisfy the meagre sentiment that foreigners generally have for women by a paltry wash of carbolized water after post-mortems on even puerperal subjects.

It requires more than a basinful of the "multitudinous seas incarnadine" with permanganate of potassium to rub out the "damned spot" so acquired, and God knows Americans had better stay at home than learn abroad to carry under the badge of their healing office desolation to the hearth of a confiding family. Much as I respect these Viennese teachers for their attainments and the good they have done in advancing obstetrical science, I cannot help looking on them as guilty of something near homicide while they permit or advance such criminality. It is not for the students to prevent it; the instructors alone have the power; only let the American in Vienna remember it as a light on a hidden rock, not a guide, but a signal of an impending calamity. The profession here and elsewhere will not do its whole duty to its neighbor until obstetricians refuse contagious cases which may endanger mother and child.

Diseases of Children.—There are numerous lecturers on this subject, but the favorites are Professor Monti, at the Polyclinic, who, besides being a thoroughly practical man, is an Italian, with a knowledge of German that foreigners can sympathize with and understand. The other is Professor Wiederhoper, who lectures at St. Anna's Children's Hospital on diseases that are more severe than a peripatetic clinic allows. As these two lecturers have consecutive hours, one may take both at a time. Before taking up the material a half-hour is spent most advantageously on a regular system of lectures. Once a week children's surgery is treated, making a pleasant variety in the usual *menu* of colic, crusta lactea, etc.

Venereal Diseases.—Whether the large standing army, that Austria finds is a producer as well as a consumer, is the cause of so much syphilis and so many children, I cannot say, but the number of men and women that one sees in the wards of Hebra, Sigmund, Kaposi, Zeissl, Neumann, etc., suffering with what chivalrous negroes call "ladies' fever," is astonishing. One

would think that the special pathology of this hydra-headed disease would be exhausted by such observers; but as it still baffles old heads the young ones are allowed a fair turn at the problem, and the lectures in this department are interesting and practical. In a single lecture I have seen as many as twenty patients with different types or stages of syphilis arranged in regular gradation to illustrate the question under discussion. The women in one department vie with the men in the other in illuminating the subject.

One cannot but feel disgusted, however, when he sees the unfortunate women who are sitting around a table, at a signal from one of the she-bears that mount guard, or from the hardly less brutal assistant, compelled to hurry off the little covering to their nakedness, and reveal, as a text to a serio-comic lecture, parts that even in the most debased women deserve the respect that nature entails on animals. I do not say that this is the universal procedure, but in one of the courses I was much tempted to instruct the instructor on points of ethics by a more forcible and striking way than mere precept.

This is a matter the students *can* ameliorate, for if, instead of smiling at dirty jokes, or passively sitting at the feet of a filthy syphilitic Gamaliel, they firmly discountenance such bullying, by, in a manner most effective with teachers yearning for American patronage, withdrawing their subscriptions until he finds why he is obnoxious, his purse will teach him what his gilt-edged conscience has forgotten, and Americans would be there as they are at home,—the men most manly to women in the world.

Skin Diseases.—For diseases of the skin, exclusive of syphilis, Vienna offers every opportunity that a corps of unsurpassed teachers and material from all the surrounding provinces afford. The parasitic diseases are especially well represented, as the filth and squalor of some of the cities' inhabitants, but more so of the peasants in the vicinity, make a paradise for vermin that is not wholly detrimental to the dermatologist.

Nervous Diseases.—In regard to diseases of the nervous system, and the didactic lectures on medical topics, I can, unfortunately, say nothing from experience. My impression, however, is that one should use Vienna as a field for the *practice* of theoretical medicine learned before starting, with such valuable amendments as the instructors give in each course.

The cost of a six weeks' course ranges from five to ten dollars. In some the home student pays only one-half of the amount charged a foreigner, a species of protection justifiable only when one thinks that the average American can get just twice as much out of his advantages.

Do not let your patriotism open your arms to every fellow-countryman, for the same caution is required there in choosing friends as is necessary on this side of the Atlantic, and you will find that salt water does not wash out all the snobbishness and low breeding of men, any more than it makes an unaffected American forget his native tongue in a year, as I have heard some students affirm, pleading a trip abroad in excuse for assaults on their mother-tongue, quite forgetting the more piercing horn of the dilemma,—*i.e.*, could they ever speak English correctly in America?

Above all things, do not come home with the faith in those who stayed there that they will believe your claims to a personal acquaintance with the various intellectual giants. It is rather amusing to hear one boast of an intimate friendship with a great gun, and know by experience how little notice is taken of students by their superiors. I myself was once ambitious, and having accosted a very Goliath with a smooth stone I had found pleasing to Germans at large,—*i.e.*, "You speak English, do you not, sir?"—I received the answer in almost a Yankee twang, "Yes; but I have no time to speak anything now." From that time my vaulting ambition was hobbled, at least in that direction, and my friends are not bored with my dining with Herr Professor Ritter Von etc., or my smokes and beers with the Kaiserlich Königlich Allgemeine Doctoren.

So much for the student of medicine. Now, since "a man's a man for a' that," it will not be out of place to say that in no European city can better amusement be found than in Vienna. The Vienna Opera, at a ridiculously low price, offers the best music and effects in the world. The concerts of Strauss and at the public gardens, coupled with the numerous excellent theatres, afford relaxation that is beneficial in more ways than one. The city is healthy, has a delightful water-supply, living is

cheaper than in New York, the climate, though cold in winter, has plenty of sunshine, and, taking it all in all, I know of no European city that is more agreeable. An English church, where Americans are always welcome and some most efficient in the music, renders it possible (a chance, I regret to say, that all Americans do not accept) to hear our beautiful service in our own tongue, a privilege much enjoyed by the married men; for, independent of its religious influence, Sunday was a day when we could be like other men, and have a little home-life even at that distance from our native land.

To men who think of marrying before going to Vienna, I would ask them to remember how much they must leave their wives, if they intend to study, and that too in a place where ladies have not the privilege of walking or shopping unattended, as with us. If, in spite of all the disagreeable prospects that hem in a doctor's wife in Vienna, she choose to accept the situation, and, with the ingenuity that true women can show in making time pleasing and profitable, she says, "Thy people shall be my people," then by all means marry before leaving home; only it is fair that she who is to be the partner of your life shall know that in Vienna ladies are denied many of the ways of enjoyment that are permissible with us.

Besides a wife, you will find her a protection against many of the temptations that ruin young Americans abroad, and will have reason to look back on your mutual dependence as one of the most pleasing features of a pleasant era. One remark before closing,—the relative value of a year's trip abroad compared to a year's life as a resident in a general hospital. I do not think they admit of comparison, for both are unique. Of the two, by far the more profitable, I should say, was the hospital residence, but by the combination the good qualities of both are intensified. Regretting that this paper is so necessarily egotistical, but assuring you that in such an article of personal experience the individual must appear, I offer it in the hope that it may benefit those who, like the writer, desired some hints before making Europe a temporary home.

THE *Chemische Zeitung* reports that considerable quantities of arsenic have been found on the examination of green carpets at Bonn.

"WHISKY AS AN ANTISEPTIC DRESSING."

BY J. L. SUESSEROTT, M.D.

MR. EDITOR,—In September, 1874, I contributed an article with the above caption for your journal, which can be found on page 774, vol. iv., and in which I refer to the use of whisky having been suggested by Dr. D. Blair in the *Glasgow Medical Journal* for February, 1870. I trust you will pardon my persistence in recommending an article which, if we are to judge by the absence of favorable or unfavorable reports of its use in hospital practice or by individuals through the medical journals, has not received the endorsement of the profession; but my surprise at the want of appreciation of one of the most pleasant, in application, of all remedies in use has frequently been excited, and I cannot refrain from referring to a casual claim of the benefit of *alcohol* in a case reported in your last issue. Although the writer of the article does not give any more importance to the "alcoholic lotion" than he does to the carbolic acid which was combined with it, and which, in my opinion, was entirely superfluous, I desire again to urge upon the readers of this journal, which has given me so many valuable hints, the propriety of submitting to a fair and impartial test an article that will render the use of the more recently discovered, and in many cases offensive, antiseptics almost entirely unnecessary.

And, lest they may fear an undue stimulating or irritating effect, let me say that *undiluted whisky* is found, by nearly all patients, a very grateful vaginal wash in leucorrhœa even where there are uterine fissures and ulcerations. But to the article above alluded to, reporting a case of hospital gangrene, on page 104, No. 339, vol. xi. of this journal. And whilst I disclaim any desire to criticise the treatment other than to regret the delay in using alcohol, I will venture the assertion that if it had been freely used, as recommended in my contribution to vol. iv., the attempt to save the foot would not have been abortive.

The article of Dr. Pooley has been so recently in the hands of your readers that I need quote very little of it; but there is one paragraph that I wish especially to

refer to. After the doctor was compelled to resort to amputation and the most approved treatment had been used, the disease—gangrene—reasserted itself in its most violent form. I will here use his own words, italicizing those that I desire to be especially noticed: "The gangrene continued for several days, the exudation appearing to increase in density, and numerous sloughs of connective tissue came away. The skin remained uncomplicated throughout. *A strong alcoholic lotion*, with carbolic acid, *was now ordered, and almost at once a change for the better was discoverable; healthy granulations began to spring up; the remaining sloughs were cast off, and in a week we were able to begin to close the stump with adhesive straps*, and it healed very rapidly, together with which the general health of the patient improved so that in three weeks he was able to go out."

As my former article, which by the use of large quotations from Dr. Blair was made as comprehensive as my feeble ability was possible to accomplish, is accessible to all of your readers, I will not further trespass on your space, but will only say that a decade of years, through which I have used the article in question very many times, has not in the least abated my admiration for and confidence in it. Within this month I treated a pulpified wound on the top of the head of a man of over forty years of age, which at first presented the most unfavorable appearance, as it had been inflicted by a blow with an axe-handle in the hands of a strong young man, with no other dressing than whisky, and as a result had the parts to heal without any suppuration, sloughing, or the least tendency to erysipelas. The injury was inflicted on election-day, November 2, and its severity upon the nervous centres was so great that, notwithstanding the entire repair of the scalp, at this writing, November 25, the entire right side of the patient is very much benumbed, and untoward brain-troubles may yet be encountered.

In conclusion, permit me to suggest that if any one should fear that whisky or its congener, alcohol, does not afford a sufficient antagonism to septic influences, let them be applied upon carbolated cotton, —an article of comparatively recent manufacture, and very convenient.

CHAMBERSBURG, PA.

TREATMENT OF DIPHTHERIA.

BY G. HAYWARD COBURN, M.D.,

Grand Falls, New Brunswick.

HAVING during the last three years had considerable opportunity of observing and treating cases of diphtheria, and having in that period tested many of the numerous methods of treatment which have been published in our magazines, I at last settled down to the line of practice to be detailed, it having afforded the best results of any I have tried or know of.

I prescribe—and it will strike the reader as nothing new—tinct. ferri chlor. with potass. chlor. Doubtless thousands of physicians use the same drugs, but, as far as my knowledge extends, comparatively few give as large a dose and with as great frequency, which supposition is my only reason for writing this paper. I give to a child twelve years of age the following:

℞ Potass. chlor., ʒi;
Tr. ferri chlor., fʒss;
Glycerin., fʒj;
Aq. q. s. ad fʒiij.—M.

S.—A teaspoonful in water *every half-hour.*

It will be seen that ten minims of the iron and three grains of the chlorate are given every half-hour, making in twenty-four hours one ounce of iron and two drachms of chlorate of potassium.

In these large and frequent doses I am persuaded lies the secret of success. I have time and time again been called early to a case of diphtheria, finding one or both tonsils distinctly covered with false membrane, temperature 101° F. to 103° F., pulse 90 to 110, etc., prescribed the above, and been surprised next day to find the membrane either gone or reduced to a mere film, with no tendency to extend; the temperature reduced to 99° F., or even normal. Of course such a result cannot be looked for in every case or even in a majority of the cases, although it is by no means uncommon in patients seen early. Still, I think that in any case such a mode of treatment gives the best chance of successfully warring against grave constitutional and local symptoms, and of promoting speedy convalescence. The first few doses often cause vomiting, but this soon ceases, and the stomach bears it well. I am in the habit, if the symptoms assume a favorable type, of lessening the frequency with which the

dose is given after the first twenty-four hours, at first to every hour, and so on. Of course this is not the only treatment, though it is the sheet-anchor: *locally* I usually confine myself to a 1 to 20 solution of carbolic acid thrown on the affected parts by means of an atomizer with a long nozzle, and sometimes used as a gargle. *I never use swabs*, believing that the rough removal of the false membrane which they are apt to cause gives too good a chance for septic poisoning.

Swelling of the glands, if great, is treated by the application of ice; if not, any warm application does nicely. I think I have seen the old-fashioned application of a strip of salt pork do good. The system must be supported by nutritious liquid diet, broths, beef-essences, milk, etc. Stimulants, I think, are not usually needed at first; during the latter stages they are often useful, and, indeed, demanded, brandy being the best form. Of course, symptoms must be treated as they arise, and no routine ought to be laid down, but, I repeat, the sheet-anchor is to be found in tincture of the chloride of iron with chlorate of potassium in large and frequently-repeated doses.

A REMEDY AGAINST DUPLICATING PRESCRIPTIONS.

BY E. T. BLACKWELL, M.D.

THE use of a prescription, after it has fulfilled its temporary mission, by any unauthorized person, which includes the one to whom it was issued, is a great evil. It fosters a habit of self-medicating, on the part of a sick person, or one who fancies himself such, which induces him to rely on his own opinion in medical questions, wherein the physician is the only competent judge. Moreover, it tends to establish the empirical use of a remedy which is foreign to the design of its author. Under the present system prescriptions are not only refilled for the same patients, but are lent to neighbors and friends, in view of fancied resemblances in their complaints. A sort of proprietorship is thus established, and a remedy, devised in strict integrity, goes upon a journey of empiricism and misapplication.

A great injury, therefore, happens, not alone to the deluded ones who ignorantly and disadvantageously use the medicine, but also to the physician who has devoted his fortune, his time, and his exertions in preparation for the right understanding of diseases and the intelligent application of remedies for their cure. A prescription, wrested from its appropriate use, becomes a competitor to the person who issues it, and may defeat his aims in the practice of his profession. While his gains are diminished, his self-respect is wounded, in view of the unlearned in medicine discussing the appropriateness of his combinations in this or that disorder.

A prescription, issued some years since by the writer, was declared to be a good one by the patient, who further endorsed it, saying it had been refilled thirteen times. One made by a distinguished Philadelphia professor, some time deceased, is so highly esteemed that it has had an extensive circulation in a district not remote, and is still in full use.

This is a grievous wrong, against which only the amplest co-operation can be successfully brought to bear; and this should be exerted upon our national legislature, to the end that prescriptions, uttered in manuscript, be protected by copyright, the handwriting of the author and his autograph being held sufficient to establish his claim to the property in question. A patient should no more be permitted to multiply copies of a prescription, or duplicate the medicine it calls for, than he should a book or magazine that he buys.

Let us, therefore, no longer tamely submit to this infraction of our rights, but vigorously assert our claims, continuing the agitation until we obtain the justice so long denied to our patient and suffering profession.

NOTES OF HOSPITAL PRACTICE.

LOUISVILLE HOSPITAL COLLEGE OF MEDICINE.

CLINICAL SERVICE OF DUDLEY S. REYNOLDS, M.D., PROFESSOR OF OPHTHALMOLOGY AND OTOLOGY IN THE HOSPITAL COLLEGE OF MEDICINE.

Reported by A. H. KELCH, M.D., Stenographer.

ON THE EYE.

CASE I.—Michael F. has been here before with the disease tinea tarsi. He has been an occasional sufferer for many years, and has for a long time had this peculiar disease of the lash or the hair-

follicles,—a parasitic disease, which manifests a special preference for two classes of people: one class who live in a bad atmosphere and suffer from constitutional debility, and another who have a general tendency to lymphatic obstruction,—the so-called strumous diathesis. He has an obstruction in the Meibomian ducts. Sometimes obstructions in the orifices of these ducts become very troublesome from the fact that the occluding material is transformed into a semi-cartilaginous substance, which, if permitted to remain, is transformed into carbonate of lime, developing a real chalk-stone.

Carbonate of lime in the Meibomian ducts is by no means an uncommon occurrence. A patient, who came to my office a few months ago, suffered from the friction of the rough surfaces of the lids, and thought he had some foreign body lodged beneath. Careful examination revealed that the ducts of the Meibomian glands were obstructed. They were distended, and these bodies projected at the fine border of the lid; the little points had become very irritating. Laying open the ducts in a longitudinal direction, these collections were easily turned out. If the duct were cut transversely, the cicatricial tissue resulting from the separation of the wound would close the duct permanently, thus augmenting the difficulty which now exists, inasmuch as it simply creates a permanent obstruction.

In the case of Mr. F. I shall open these ducts with Beers's knife.

I find them filled up with chalky matter, which comes out in little particles, as you see them here on my knife; the particles are small, but numerous. The reason why these are obstructed in this case is because the patient has lost a considerable portion of the lining of the lids, from long-continued inflammation, and, I was about to say, caustic applications, and the cicatrices have closed the orifices of the ducts along the free border of the lid.

The existence of parasites in the hair-follicles which transmit the eyelash gives sufficient irritation to keep up the redness and swelling, which you observe is considerable.

To relieve this condition it is not alone necessary to pursue a course of local treatment, but it is necessary to treat the constitutional debility which predisposed to the development of the parasite. An ointment composed of calomel in almost any strength—the yellow oxide of mercury, because it is an amorphous salt and can be more evenly diffused throughout the excipient—is perhaps preferable. The red oxide of mercury is a crystalline substance, and from this fact its action may be too much centred in one point. The yellow oxide is not open to this objection. It has been claimed by some that there is no difference between the red and the yellow oxide. But if you will take the trouble to perform the experiment of adding the yellow oxide of mercury to a saturated solution of oxalic acid, you will find a precipitate of white oxalate of mercury readily and quickly thrown down, while such precipitate does not so readily fall from the addition of the red oxide. We will give Mr. F. the yellow oxide of mercury in the proportion of ten grains to the half-ounce of vaseline. A wash shall be given him to aid in the solution of crusts in the lash. The best thing for this purpose is the bicarbonate of soda, and next to that, perhaps, the sulphite of soda. We will give him forty grains of sodæ bicarb. to the ounce of water, which must be used to bathe his eyes, and after that let him rub in the ointment of the yellow oxide. If he should apply the ointment without previously removing the crusts, it would remain on the surface of the scab and do no possible good.

Case II.—P. B., æt. 57. The most perfect specimen of jaundice I have seen in a long time, and he has cataract in both eyes. Upon examination I find the perception of light and shadows here is sufficiently delicate to warrant the conclusion that he is a favorable subject for operation. But before he is operated upon he must receive constitutional treatment. I will therefore give him sulphate of quinia, ℥i, divided into twelve powders, one to be taken after each meal, and elixir of lactopeptin, ℥iv, a teaspoonful of which he may take before meals.

It is bad practice to operate for cataract by extraction, or, in fact, to do any kind of an operation, upon a person whose general health is so evidently bad as is this man's. He is moderately well nourished; his tongue is tolerably clean; he says he has a fair appetite, sleeps well, feels weak, but he is at this time in as good health as he has been during the last six or seven years. His wife says that his skin has been as yellow for four years as you now see it. His

pulse and respirations seem normal, but I am unwilling to operate upon him until after he has been brought fully under the influence of quinine. He is to return here next Monday, when, if his general condition appears good and the weather is not unfavorable, I shall extract the cataract from one eye, and when that has been entirely restored and is no longer in the least degree irritated from the effects of the operation or other cause, and if the patient should desire it, I shall proceed to extract the cataract from the other eye.

It is not safe to undertake the extraction from both eyes at the same sitting, as in the case of this man, where the general health is evidently not good, the man being jaundiced, if I were to extract the cataract from both eyes, sloughing of the cornea might ensue, or suppurative inflammation of the uveal tract might occur, and in either case both eyes be lost; whereas if one eye only be operated upon at a time, and such an unfortunate occurrence as I have just named should overtake the patient, he has still a chance, after he has regained his general health, to have a successful operation performed upon the other eye.

Case III.—Mrs. G., you all remember, came here a week ago from Elizabethtown with a lachrymal fistula in the left cheek. It had been discharging muco-purulent material for eight months. She first noticed the swelling near the inner corner of the eye, just at the point where the lower lid joins the nose. This swelling grew worse, was painful, and caused the lids to be closed for a number of days. Poultices were employed until the abscess pointed externally and finally ruptured, discharging its contents upon the cheek, leaving a frightful-looking opening, with its inflamed margins and offensive contents as you all saw it a week ago. You may remember that last Monday I nicked the punctum in the lower lid with a pair of fine scissors, and then introduced what is known as Weber's knife,—a curved probe-pointed instrument, having the cutting surface upon the concave edge of the blade. Passing this instrument through the enlarged punctum and carrying it into the tear-sac, the handle was swept from a temporo-frontal position over towards the nose, until division of the inferior canaliculus was extended quite up to the internal commissure of the lids. You may remember that as soon as this section of the inferior canaliculus was made there was an escape of a considerable quantity of pus, both from the opening made by the knife and from the fistulous opening upon the cheek.

An Anel's syringe, loaded with a five-minim solution of carbolic acid to the ounce of water, was employed to wash out the tear-sac. Immediately after this a No. 6 Bowman's probe was with some difficulty passed on through the nasal duct. The probe encountered a pretty firm stricture occupying about one-fourth of an inch of the upper extremity of the nasal duct. By gentle pressure and a little coaxing the instrument finally passed by dilating the contracted canal. I thought at first it might become necessary to cut out this callous tissue upon the cheek and close the fistula with silkworm gut suture, which is much less irritating than any other substance, not excepting silver wire; besides, it is much finer than wire, more flexible, and therefore better suited to the purpose. To my surprise and the patient's delight, the cleansing of the tear-sac practised a week ago, and the daily introduction of the No. 6 probe, have been followed by the closure of the fistula and the entire disappearance of all morbid matters from the tear-passage, and the patient, as you see, is now substantially cured. The discoloration is disappearing from the cheek, the point where the skin was perforated is already depressed, and will eventually leave a depressed white cicatricial line to mark the site of what you will all bear testimony was a very ugly fistulous opening.

To insure the potency of the strictured part of the nasal duct, I shall now introduce a Bowman's probe No. 4, which you see passes with great ease, meeting with no obstruction whatever. I choose this probe because for two days no probe has been passed, and it was reasonable to suppose the canal was scarcely so large as it was when the probe was being introduced daily.

Case IV.—Miss Edie G., æt. 15, a school-girl, came here last Monday, as you remember, suffering from asthenopia, which means that the eyes were tired,—ached on attempting to read, and on continuing for a few moments they became quite painful, so much so she was obliged to desist. She claims to have perfect sight, and complains simply of her inability to continue the exercise of that perfect vision. This is evidently due to an excessive strain upon the

accommodative apparatus of the eye, in order to make up the defect of refraction, the exact nature of which can be determined only after complete suspension of the accommodation. To accomplish this a solution of sulphate of atropia in the proportion of four grains to the ounce of water was ordered last Monday. She was instructed to put one drop of this solution into each eye every morning and evening, and she has come here to-day for the purpose of having her refraction tested. With a sheet of Snellen's test letters placed at twenty feet from the patient, she is unable to recognize that there are any letters upon the paper. With Donders's stereopæic disk we find that in the vertical meridian of the right eye $V = \frac{20}{CC}$. In the horizontal meridian she does not see so well as without the disk. A convex lens with a refracting power of $\frac{1}{10}$ enables her to read $\frac{25}{LXX}$ in the vertical meridian. She is unable to decide, as you observe, which glass, $+\frac{1}{6}$ or $+\frac{1}{7}$, gives her the clearest vision in the horizontal meridian. Reversing the disk and bringing the slit in the vertical meridian, we find her able to see as well with $+\frac{1}{6}$ as with $+\frac{1}{10}$, and she makes no choice of any of the intermediate grades. Therefore we conclude that her accommodation is still active, that it is not yet suspended, although she has continued to use the four-grain solution of atropia faithfully for the whole week. Dr. Schell, of Philadelphia, has lately brought to the notice of the profession, in the *Philadelphia Medical Times*, a new drug called "homatropine," which he claims will fully suspend the accommodation in thirty minutes, and that the effects pass off within thirty-six hours. I have sent for some of this new drug, and shall consider the profession and the general public much indebted to Dr. Schell if I shall be able to confirm the results which he claims to have obtained. The patient must continue the use of the atropia and return to the next clinic, when we shall continue the test until the exact state of her defective refraction has been ascertained; then we shall proceed to correct it with the proper glasses.

(To be continued.)

Dr. T. J. Thomason died recently at Perrineville, New Jersey, from cancer of the tongue. In 1873–74 he was president of the New Jersey State Medical Society.

TRANSLATIONS.

On the Cure of Bright's Disease.—Prof. E. de Renzi, of Genoa (*Virchow's Archiv*, Bd. lxxx. p. 510), has within the past two or three years had a number of cases of Bright's disease under his care. In six of these it was possible to keep accurate notes of the quantity of urine, albumen, and the other principal symptoms, and at the same time to observe the effects of the various remedies used. For a certain number of days a given remedy was employed; then for another series of days another means of treatment was employed. Thus by a comparative method the influence of various methods of treatment could be studied. Some of the remedies were quite new, which lent additional interest to the investigation. Such a study would appear all the more necessary, because the usual treatment for Bright's disease, although often of use in improving the patient's condition and appearing to arrest the course of the disease, is in most cases quite ineffectual in bringing about an entire cure. The conclusions drawn by Renzi are as follows. 1. Chronic Bright's disease left untreated shows no improvement, and must be excluded from the category of diseases which occasionally terminate favorably without treatment. During the first days of treatment in the clinic, or when the treatment is suddenly broken off, the quantity of albumen in the urine is increased. 2. *Fuchsine*, which has been recently brought forward as a remedy in Bright's disease, causes a marked diminution in the quantity of albumen. Renzi has used it under two forms, dissolved in water, or mixed with an indifferent extract in pills of two and a half centigrammes. On account of the fact that the deep coloration of solution of fuchsine prejudices patients against it, the pill-form appears to be the most convenient. 3. The daily dose of fuchsine may be made much larger than that heretofore prescribed. Renzi usually begins with a small dose, as 0.05, gradually increased to 0.25 within twenty-four hours. He has never observed any untoward physiological effect from the use of fuchsine. Depending upon the dose of fuchsine the urine begins sooner or later to assume a red color, which it retains during the continuation of the treatment, and usually for five days after. 4. In Bright's disease the urine often shows mucus; fuch-

sine is particularly useful in combating this condition, which it removes entirely. The mucous membrane of the digestive organs becomes deeply colored by fuchsine, and the plasma of the blood also becomes decidedly colored. Investigation shows this latter effect to be due not to any increase in hæmoglobin, but to the solution of fuchsine in the blood. 5. If fuchsine does not appear in the urine, this is a sign of an organic disturbance; in this case it is of no use against the albuminuria. 6. Rest in bed is a valuable adjunct to treatment in Bright's disease, for the purpose of limiting the amount of albumen passed. In connection with milk diet this plan caused the most considerable diminution of albumen. Renzi has often observed that unusual movements of the patient have an unfavorable tendency on the course of the disease. 7. Apomorphia is usually well borne, and Renzi has used it in doses of five to six centigrammes without disagreeable effect. In one case this method alone served to improve materially the patient's condition.

Cure of Strabismus by Mydriatics.—Dr. Boucheron read a paper on this subject recently before the *Académie de Médecine* (*Le Progrès Méd.*, 1880, p. 562). His treatment is based on the physiological fact, not previously published, that the accommodation of the eyes for short distances governs the convergence of the eyes. Dr. Boucheron proposes to combat the excessive convergence of hypermetropic eyes and the converging strabismus resulting therefrom by suppressing the accommodation temporarily by atropinic paralysis of the muscles of accommodation. The results of this treatment may be summarized as follows. The condition *sine qua non* of success is the intermittence of deviation of the strabismus, indicating that the internal recti muscles are no longer retracted and shortened as a result of their habitual vicious position. Instillations of sulphate of atropia (one and a half grains to the ounce of distilled water) should be made from the first appearance of the strabismus, before any change takes place in the convergent muscles. The instillation should be practised in both eyes, so as to obtain a complete paralysis of the muscles of accommodation. One or two drops morning and evening of the solution above indicated produce the pupillary dilatation desired. The instillation should be continued during a period sufficiently long to cause this habit of excessive convergence when the infant looks at any near object to disappear. This medication places the child suffering from hypermetropic strabismus in the condition of non-strabismic hypermetropic persons. The duration of the treatment is less long when the child is younger and the strabismus of relatively shorter standing. Generally the strabismus disappears within two or three weeks, but it shows a tendency to relapse for some months, or even a year, subsequently, in older children. In the cases under Dr. Boucheron's care the atropia has caused no inconvenience. When atropia is badly borne, one of the other mydriatics, as duboisine, may be employed in place of it. In certain cases, myotics, like eserine, which immobilize accommodation by contracting the ciliary muscle, may modify the relation which exists between accommodation and convergence and cause the strabismus to cease; but mydriatics have the most certain effects. Employed in nine cases of intermittent convergent strabismus in children, this plan of treatment has been successful eight times.

Carbolic Acid as an Antipyretic.—Dr. Desplats (*La France Méd.*, 1880, p. 579) asserts: 1. That carbolic acid administered in febrile cases in sufficient doses always lowers the temperature suddenly. 2. The temperature may be kept down by fresh doses of the medicine at will. 3. Doses of carbolic acid heretofore considered toxic may be surpassed without danger. Some of Dr. Desplats's patients have taken for many days continuously eight, ten, and twelve grammes of carbolic acid.

Charcoal in Infantile Diarrhœa.—Dr. Jules Guérin recommends the employment of finely-powdered charcoal, given in the nursing-bottle with milk, for the diarrhœa of young children: a dessertspoonful is sufficient. He has recently cured a case of diarrhœa with vomiting by this means.

A Premonitory Symptom of Uræmia.—Dr. Ortille (*La France Méd.*, 1880, p. 579) says that uræmia is one of the possible modes of termination of uterine cancer, occurring as a consequence of the obstruction of the ureters from the growth. A premonitory symptom of this condition is the sudden and total disappearance of all pain. Dr. Ortille further asserts that uræmia is not a poisoning,—that is, an

alteration localized in the blood or one of the principal tissues,—but is a cachexia,—that is, a general trouble involving all the organs.

Excitability of the Vaso-Motor (Vaso-Dilatator) Centres in the New-Born.—We know already that the excitability of the nervous system in the fœtus is somewhat different from that of the adult. Soltmann found that the electrical stimulation of the cerebral cortex was not followed by any effects before the tenth day of extra-uterine life. This fact was well established also by Farchanoff. I may add that the excitability commences afterwards to increase moderately until the nineteenth day, when an epileptic attack can be produced by an electric current. The excitability of the motor nerves in the newborn to the electric stimulus is not so great as in the adult, and goes on augmenting until the fifth week (Soltmann). Somewhat later the same writer proved that the cardiac inhibitory nerve-centres were very little or not at all developed at birth, because stimulation of the pneumogastric produces only a little retardation of the pulse. Anress obtained the same results in cats, in which the activity of these centres appeared from the seventh to the fourteenth day.

The above experiments incited me to the study of the vaso-motor system. The following is my experience on cats and dogs:

I. Experiment on a pup born the previous night. On electrical stimulation of the lingual nerve, no alteration at all was noted in the organ. The sympathetic of the right side was cut, and some increase in the heat of the corresponding side of the head and ear was noticed, though in a slight degree. The duct of Wharton was then divided, and viscid saliva began to flow, and, on cutaneous injection of pilocarpin, a copious salivation occurred.

II. In another pup, of the same age, no alteration occurred on stimulation of the lingual nerve.

III. In another pup, similar to the previous ones, on stimulation with a weaker current dilatation of the vessels of the tongue occurred, accompanied with the same phenomena as in the adult.

IV. A pup born in the preceding night. On stimulation no alteration was noted.

V. In a brother of the previous pup, on stimulation of the right lingual nerve a notable dilatation of the lingual vessels of the same side was observed, the surface assuming a very prominent, bright color, the corresponding margin of the tongue appearing larger.

VI. In a cat three days old, no alteration was observed on stimulation.

I conclude that the vaso-motor centres as well as the inhibitory are not sensible to stimulation on the first days of extra-uterine life.—*Extract from Giornale Lo Sperimentale*, 1880. P. B.

Parotitis as a Complication of Ovariotomy.—R. Möricke (*Zeitschr. f. Geburtshülfe u. Gynäkol.; Cbl. f. Chir.*, 1880, p. 667) says that the not very uncommon concurrence of parotitis and inflammation of the testicle has its analogue in the female sex, certain cases having been recorded where parotitis followed or became interchanged with disease of the female sexual organs. Among two hundred ovariotomies reported by Schröder, parotitis was observed in five cases; only one of these could be referred to infectious disease, consequently there could be no question of metastasis. The enlargement began in one case on the fourth day, in the other cases from the sixth to the seventh day. In three cases suppuration of the parotid gland occurred. One patient died of this affection, so that in debilitated individuals it may be regarded as a serious complication of ovariotomy. The relationship of the two affections is difficult to understand.

Laparotomy in Pregnancy.—In two hundred ovariotomies C. Schröder (*Zeitschrift f. Geburtshülfe u. Gynäkol.; Cbl. f. Chir.*, 1880, p. 667) made seven in pregnant women. All seven terminated favorably for the mother. In four cases the women went to term, which is not unfavorable when it is considered that a living child could have been expected in only one case without ovariotomy. After remarking that only with the help of every means of diagnosis can the existence of the complication of ovarian tumor and pregnancy be made out, Schröder concludes that the operation is a justifiable one. On account of the development of the venous circulation in the broad ligament during the later months of pregnancy, the most favorable period for operation is the earlier one. Six months after delivery is, according to Schröder, the earliest moment at which the operation should be undertaken.

Speaking of the simultaneous occurrence of pregnancy and uterine myoma, Schröder alludes to the extreme difficulty of diagnosis, and, after mentioning the difficulties in the way of a birth at full term in these cases, which authorize the physician to bring on abortion, he gives a case in which he performed myotomy on the gravid uterus at the end of the sixteenth week of pregnancy. The tumor was a large pedunculated, subserous myoma, which was connected with the omentum and with two small subserous myomata. The extreme distress to which the growth of the uterus and of the myomata gave rise indicated the removal of all these myomata. The result was favorable, and birth was completed at full term with the aid of the forceps.

Primary Carcinoma of the Lymphatic Glands.—E. Chambard (*Rec. Mens. de Méd. et de Chir.; Cbl. f. Chir.*, 1880, p. 670) gives the case of a cachectic woman of 63, in whom, on examination, both axillæ and both supra-clavicular regions were found full of hard nodules of various sizes, movable and immovable, which were evidently enlarged lymphatic glands. At the under boundary of the right axillary group of lesions a pea-sized scirrhus of the skin was found. The whole left arm, in the axilla of which the lesions were most marked, was œdematous. *Both mammæ were intact.* Two months later, the disease had made decided progress; both the breasts were unquestionably carcinomatous, and in the skin of the left mamma numerous scirrhous tumors could be seen. Ulceration took place in the axillæ, and the patient died some four weeks later. The autopsy revealed, in addition to the lesions above mentioned, extensive tumors of the lymphatic glands in the anterior mediastinum, metastatic tumors in the outer surface of the pericardium, both lungs, the liver, the capsule of the right kidney, etc. Microscopic examination showed these to be carcinomatous. Chambard concludes the case to have been one of primary carcinoma of the lymphatic glands.

Tumor of the Mesentery—Gastrotomy—Recovery.—A Parisian of constipated habit, but of good general health, was seized with violent abdominal pain of an intermittent and excruciating character. Failing to gain relief, he was operated on by Dr. Tillaux by gastrotomy, with antiseptic precautions. On opening the abdomen, a tumor the size of a fœtal head was discovered, involving the mesentery, and was removed. On examination, this tumor was found to be cystic, and filled with fatty matter. The patient made a good recovery. —*Bull. Gén. de Thérap.*, vol. ii., 1880, p. 229.

Milk Diet in Heart-Disease.—Dr. Potain (*Bull. Gén. de Thérap.*, vol. ii., 1880, p. 232) says that milk diet is particularly efficacious in secondary affections of the heart, hypertrophy or simple dilatation of renal or gastric origin. This regimen acts on the stomach or kidneys by affording complete repose. It should be continued for a long period. It is useful also in simple reflex palpitation of gastric origin. In order to be efficacious, the milk regimen should be well borne by the stomach. Three quarts daily appears to be the proper average amount to be ingested.

Syphilitic Neuralgia.—Dr. Mauriac employs the following formula:

℞ Pulvis iodoformi, ℈i;
Ext. et pulvis gentianæ, q. s.
Fiat in pil. no. xx.—M.

Two or three to be taken daily.

Formula for Hypodermic Use in Syphilis.—Dr. Yvon (*Bull. Gén. de Thérap.*, 1880, vol. ii., p. 217) recommends the following as not exciting local irritation, not coagulating albumen, and as easily absorbed:

℞ Hydrarg. biniodid., } āā gr. xv;
Potassii iodidi, }
Sodii phosphat. (tribasic), ℈iss;
Aquæ destillat., f℥xii.—M.

Six minims of this solution will contain one-eighth of a grain of the mercurial salt.

Treatment of Gaseous Dyspepsia.—In this form of dyspepsia, accompanied by fermentation with the rapid disengagement of large volumes of gas after meals, the most satisfactory remedy is chloroform, in the dose of fifteen to twenty drops in a little syrup. After a few moments the gas is expelled from the stomach and fermentation arrested.

Treatment of Phthisis by Creasote.—M. Boyer administers the creasote as follows: Creasote, ℥ij; rum, ℥iv; glycerin, ℥iv; one or two tablespoonfuls to be taken daily after meals in a little soda-water. It is in the torpid and scrofulous forms of phthisis arrived at the second stage that M. Boyer uses the above mixture.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, DECEMBER 4, 1880.

EDITORIAL.

THE SECRETS OF THE CONSULTING-ROOM.

WE earnestly ask our readers in this State that they will use their personal influence to secure the passage of a law by our Legislature recognizing the relation between the doctor and the patient. The secrets of the lawyer's consulting-room and of the priest's confessional are held inviolate by the law. Is not the relation between physician and patient as delicate and as important as that between lawyer and client? are not the revelations known to be necessary for the cure of the ills of the body as worthy of the recognition of the law as are those believed to be necessary for the cure of the ills of the soul?

A law of the character spoken of has existed in New York since 1828, and is said by the Medico-Legal Society of the State to have worked well. It is now proposed to copy this enactment in our State. The text of it is as follows:

"No person duly authorized to practise physic or surgery shall be allowed or compelled to disclose any information which he may have acquired in attending any patient in his professional character, and which information was necessary to enable him to prescribe for such patient as a physician, or to do any act for him as a surgeon."

The medical profession can, if it will, mould legislation in regard to itself. What is wanted is *individual* effort by the doctors through the State. You physicians who recognize the importance of the law, make it a point to see personally, or, if this be impossible, to write urgently to, your representatives in the two legislative bodies, and pledge them if possible.

Some years since, when working for an appropriation to one of our hospitals, we went to Harrisburg with a well-known politician and lobbyist. The question was asked, Shall we depend upon seeing the committee and the Legislature, which had appointed an hour for seeing us? "D—— this shooting into flocks; pick out your bird," was the reply. Not much piety, but much worldly wisdom,—the very secret, indeed, of successful lobbying.

THE raids of American publishers have been sufficiently violent in their disregard of the rights of English authors, but we doubt if any acts can be found which will quite parallel the recent doings of an English firm. The well-known series of American Health Primers are apparently being republished in London *in extenso*. This is certainly complimentary to their authors; but, unfortunately, the authors' names are suppressed and every effort made to give the impression that the books have been written in England. The series appears as "Ward & Lock's Long Life Series," and is announced as "accurately written and carefully edited by distinguished members of the medical profession." Four of the republications have reached this country. In Dr. White's book there is but a single alteration, in Dr. Harlan's one, in Dr. Cohen's eleven, whilst in Dr. J. G. Richardson's changes are made on no less than thirty-seven pages. Two or three of these modifications are slight verbal corrections, whilst the others are of such a character as to show that they were made for the purpose of concealing the American origin of the books.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

A CONVERSATIONAL meeting was held at the hall of the College of Physicians, Philadelphia, October 13, Dr. Albert H. Smith, president of the Society, in the chair.

Dr. George Hamilton read a paper entitled "Hemorrhage incident to Parturition" (see No. 339, page 99).

Dr. Blackwood, in opening the discussion, inquired how long it would be advisable to allow a placenta to remain before removing it, in the opinion of the lecturer.

Dr. Hamilton said that no inconvenience resulted from the placenta remaining a considerable length of time. In one of the cases he had reported it remained for thirty-six hours without doing any harm. No regular time can be laid down, but it will vary with special cases.

Dr. Packard said that there were two or three points that had occurred to him while listening to the paper. First, is post-partum hemorrhage, with the practitioners of medicine in this country, a matter of such frequent occurrence? It would seem, from the discussion of the matter in the English journals, that the number of cases must be entirely out of proportion to that which we meet with here; whether owing to mode of living, the climate, or other conditions, he could not say. Secondly, he inquired whether delivery of the placenta by Crédé's method is not so generally followed by physicians as to do away with methods formerly in vogue? thirdly, whether the administration of ergot after the uterus has been emptied is not the correct mode? and, finally, whether the injection of hot water has not been a success in the hands of the members present who have employed it in the treatment of post-partum hemorrhage?

Dr. William Goodell admired the candor with which the cases had been reported by the lecturer. The two cases were diverse, and would have tried the skill of any physician. In the first case he would not say how far the manipulation was wrong or right, but his own practice would have been not to have disturbed the woman as long as there was no bleeding. If hemorrhage occurred, the only thing to be done was to deliver. However, he did not know that anything better could have been done than was done. He considered it a case of concealed accidental hemorrhage, in which a good deal of blood had been thrown out under and around the placenta, and had been subsequently expelled. Some years ago, in writing a paper on this subject for the Obstetrical Society of this city, he had looked up the statistics bearing upon this complication of labor, and had found that the mortality was frightful.

The second case was a bad one of post-partum hemorrhage, and, having no treatment, the patient was virtually moribund before the physician arrived, and he had no chance. The first thing to do in such cases is to relieve the woman,—empty the uterus and then resort to ice or hot water.

The subject of hemorrhage incident upon parturition was such a great and important one that he scarcely knew where to begin and where to end, but, as he had been asked for his experience, he would give his own rules of practice. In regard to the removal of the placenta, he usually delivered it by Crédé's method as soon as the womb was sufficiently contracted. If a woman is known to be a bleeder, it is important to take some measures to prevent hemorrhage. His own practice was to give a good dose of ergot and a good one of quinine towards the end of labor, and to delay the descent of the shoulders and body so as to secure good contraction of the uterus. When the child's body is partly born, slapping the shoulders will cause convulsive movements of the legs, which will stimulate the uterus and make it contract.

He always gives ergot immediately after delivery in a primipara, and as soon as the perineum begins to bulge in multipara, not only with a view of preventing bleeding, but also to hinder the absorption of putrid lochia. Ergot is thus a good remedy when given in time, and especially so in bleeders. He recalled the case of a lady, the wife of a physician, who had a history of severe post-partum hemorrhages, and who had also taken chloroform in her two previous labors. He determined not to give chloroform on this occasion, but was obliged to yield to the entreaties of the family. He, however, stipulated that she should have full doses of ergot. During the second stage of labor the husband was directed to give a teaspoonful of the fluid extract of ergot. After the birth of the child a hemorrhage of the most formidable character took place. It was simply frightful. He had never before seen a patient recover from such a loss of blood. To add to the difficulties of the case, the woman became maniacal from the effects of the chloroform, and rolled from side to side of the bed, shrieking and screaming. The hemorrhage was finally stayed, and she rallied, but only under full doses of opium. It was hours before the pulse at the wrist came up so as to be felt. The husband afterwards acknowledged that, fearing the impressibility of his wife's constitution, he had given only ten drops of ergot, instead of the full dose ordered.

This brings up the question of anæsthetics in obstetrical practice. From his own observation he believed them dangerous, and especially so when ether is given. Chloroform can be administered at the beginning of a pain, and withdrawn immediately after it has passed. But if ether is used its full anæsthetic effect must be maintained between the intervals of the pains, or else the pains are felt more keenly. Hence the womb is liable to become relaxed from prolonged anæsthesia, and the danger to the patient is much greater than where it has not been given or chloroform has been used.

In post-partum hemorrhage he invariably gives ergot. Where it is anticipated he always gives a teaspoonful of fluid extract of ergot when the head has cleared the os uteri. He always follows the womb down with the hand, and if

there is any hemorrhage removes the placenta by expression as soon as the womb has contracted. If, however, the hemorrhage is dangerous, he delivers the placenta at once, and then resorts to lumps of ice within the cavity. This he had generally found to be efficient; but he always held the hot water in reserve. He would, however, make the addition of vinegar to the hot water. Of the value of vinegar as a hemostatic there is no doubt. He had found it of great service after the removal of large growths in the enucleation of fibroid tumors of the womb, and particularly in operations on a cancer of the womb, as well as in ordinary operations, when the bleeding interferes with the progress or the success of the operation. He fully endorses Prof. Penrose's championship of its utility in labor, but would suggest the combination with hot water as being doubly efficient. Having a wholesome fear of the subsulphate and the tincture of the chloride of iron, he would reserve their use to such desperate cases as resist the ice and the usual remedies. He feared these remedies, because, in a very bad case, some years ago, he injected the iron and promptly stopped the hemorrhage, but septic peritonitis rapidly ensued and carried off his patient. This untoward result he attributed to the decomposition of the plaster-like clots formed in the uterine cavity by the iron, and left behind.

Dr. D. M. Barr did not believe that anæsthetics increased the liability to hemorrhage, and from his own experience was satisfied that a proper anæsthesia not only does not interfere with, but, on the contrary, favors, the use of means to arrest hemorrhage. The patient is passive, manipulation meets with neither excitement nor resistance, and unless the anæsthetic effect be too profound, beyond what should ever be used in the lying-in room, the uterus will respond as promptly in the anæsthetized state as in its absence.

He had used anæsthetics largely in labor cases, and had never seen contractions interfered with or hemorrhage induced by them, and stated that similar testimony is not wanting from those who have used anæsthetics over thirty years continuously.

He had one case of death from hemorrhage, after a premature labor, induced by the mother at eight months. Cold water was poured upon the abdomen, and ice was introduced into the cavity of the uterus, in accordance with the teaching at that time,—fifteen years ago,—but contractions failed to set in, and the woman bled to death as from a loose bag. No anæsthetic was used in this case. Carbolized hot water would certainly seem to be the more rational treatment, but was not dreamed of then.

In a recent case of placenta prævia, in which the woman was almost bloodless from repeated hemorrhages, and in the face of a copious hemorrhage at the onset of labor, she was anæsthetized, the child turned, and the hemorrhage controlled as perfectly as though she had suffered all the agonies which pertain to turning under ordinary circumstances.

If these facts be true, is not woman entitled to the benefit of anæsthesia in labor? and should not our teachers and leaders in medicine rather instruct in the proper use than forbid the use of this comfort?

Dr. Addinell Hewson said that in the place of the ordinary anæsthetics he had been in the habit of inducing analgesia by rapid breathing, which can be instituted at the onset of a pain and suspended in the intervals. There is no interference with the action of the uterus by it, and no difficulty is experienced in any operation requiring the co-operation of the patient, for the patient is not unconscious, although free from suffering. He recommended a further extension of this method in obstetric practice. In regard to the use of ergot hypodermically after delivery, he said that he used it so constantly with satisfactory results, while the patient was insensible from the rapid breathing, injecting the remedy into the back part of the thigh, and had found it to be much more efficient so than when given by the mouth.

Dr. William T. Taylor, in referring to Crédé's method, said that it was suggested to him and practised by Dr. Charles M. Griffith about twenty-five years ago, the recommendation being to squeeze the uterus and force the placenta from it.

Dr. Charles B. Nancrede differed from Dr. Barr, and was satisfied that anæsthetics do stop the pains of labor.

Dr. W. H. Parish remarked that one point brought out by the lecturer was in reference to the need of immediate interference in cases of active bleeding, especially post-partum bleeding. Dr. Parish believed in the necessity of active interference. The question of removal of the placenta is the first presenting itself. If allowed to remain, it can be of no service, and may be of much harm. The hemorrhage usually comes from the placental site. The uterus cannot fully close the bleeding orifices except by complete contraction, and this will not occur until after its cavity has been emptied. The so-called Crédé method, according to Barnes, was in vogue in Great Britain prior to the association of Crédé's name with the procedure. This method is the best one, although not invariably successful.

When the bleeding is from the placental site, it ceases after the removal of the placenta and the full contraction of the uterus. In some cases the bleeding is from a lacerated cervix; in such a case Crédé's method has a special advantage over the introduction of the hand, inasmuch as the latter may increase the tear and add to the hemorrhage. He related a case in which the physician left

a retained placenta in the uterus and vagina, and when seen by Dr. Parish, twenty-four hours after the birth of the child, the after-birth was in a state of putrefaction. He would not, therefore, be willing to leave a placenta for thirty-six hours after labor, as had been done by the lecturer, but believes in its immediate removal if hemorrhage exists.

He had been impressed with the value of hot-water injections, and from experience he believes that they have special advantages. Ergot, which is indispensable in all the forms of hemorrhage, and should be administered when there is laceration of the neck, will not, however, in the latter condition, check the bleeding. Hot water injected against the cervix and into the uterus will stop this bleeding, aid in keeping the womb in contraction, wash away blood-clots, and diminish the danger of septic poisoning.

Where the patient has lost blood until exhausted, ice or cold water and ergot do not suffice to stop the bleeding with sufficient promptness. In this condition hot water injected into the cavity of the womb will secure immediate uterine contraction and promptly stop the bleeding.

In two or three hospital cases he had, a few years ago, injected into the uterus to control post-partum hemorrhage a weak solution of Monsel's salt. The patients recovered without symptoms necessarily dependent upon the injections. He would not now, since he has learned the value of hot water, resort to such a remedy as Monsel's solution by injection. In a case of placenta prævia he saved the child by rapid delivery after podalic version, and saved the mother from impending death from hemorrhage by carrying a piece of cloth saturated with Monsel's solution into the uterus and swabbing the placental site.

Dr. Atkinson endorsed the opinion of Dr. Goodell as to the value of Crédé's method; but Dr. Atlee had taught and employed it as early as 1853, long before Crédé recommended it. Hot-water injections he uses with great satisfaction, had never needed to add vinegar; as a prophylactic he generally gives quinine and ergot. He had noticed that there was a liability to hemorrhage in women who have a varicose condition of the veins of the vagina and neck of the uterus; and he has now a case under observation in which there has been very decided hemorrhage in previous labors.

Dr. Goodell said that he would like to make a single remark more. In regard to Crédé's method of delivering the placenta, it was stated by Dr. Parish, who quoted Dr. Barnes of London, that this method was taught and practised in the Dublin school many years ago; but the Dublin school merely placed the hand above the uterus, and followed it down as it contracted. Crédé's method, however, is more than this: it is, in addition, the expression of the placenta by forcibly squeezing it off and out of the womb by the hand. The placenta is thus forced out like the stone from a cherry when pinched between the thumb and forefinger. He did not believe that this plan had ever been practised by Dr. Atlee or by any one else before it was devised and recommended by Crédé; at least such a plan had never been described or published by any other physician.

Dr. Hewson said that when he was a resident in the Rotunda Hospital, Dublin, in 1851, the method then taught there was similar to that mentioned by Dr. Goodell, of following down the uterus and not of squeezing the organ with the hand.

Dr. W. R. D. Blackwood recommended the hypodermic injection of ergot as the only serviceable method. In one case, after giving without result two ounces of Squibb's ergot by the mouth, he had injected one drachm hypodermically, and the hemorrhage stopped at once.

In a practice of twenty-three years he was satisfied that the use of anæsthetics does tend to produce post-partum hemorrhage: he therefore uses them only where absolutely necessary, as in instrumental delivery.

With reference to the propriety of leaving the placenta when adherent, he reported the following case. While at Huntsville, Alabama, in 1867, he was called to see the wife of a hospital steward with retained placenta after delivery. He insisted upon its removal, but was overruled. In eighteen hours septic symptoms set in, and in a few days the woman died of septicæmia. He had experience in other cases, and now is not satisfied until he has introduced his hand and peeled the placenta completely from the uterus, and satisfied himself of its *absolute* removal. He was so fully satisfied of the importance of the extraction of the placenta that he would rather invert the uterus, if necessary in order to peel off the placenta, than leave any part of it in to poison the patient. This statement he made deliberately, and would at another time support it by the history of a case in point.

Dr. W. S. Stewart insisted upon a digital examination in cases of hemorrhage, for a portion of the membranes or a clot may act as a wedge to keep the uterus from contracting, and open the vessels which had been already closed. If neglected, it may produce fatal hemorrhage or convulsions. He recalled the advice of the late Dr. Meigs to a young physician, "to go to church once a day, and don't forget to turn out the clots."

Dr. Wm. M. Welsh spoke of a case illustrating the value of vinegar in post-partum hemorrhage. The fœtus of eight months had been dead several weeks; bleeding continued after delivery, applications of ice failed, but vinegar stopped it at once.

Dr. Albert H. Smith said that he had

brought the subject of the use of hot water in post-partum hemorrhage to the notice of the Society some time ago; he had seen no reason to change his opinion of the value of the practice which he then held; on the contrary, his experience had steadily confirmed and increased the good opinion then expressed. One point had not been brought forward in this evening's discussion that is of special importance,—the use of hot water in every case after delivery as a prophylactic against hemorrhage. He would now believe that he had not done his duty to his patient if he had not at hand a syringe and a vessel of hot water, with about two per cent. of carbolic acid, ready for use immediately after delivery.

He recalled a case analogous to Dr. Goodell's, also the wife of a physician, that he had attended. There had been violent hemorrhage in two labors, so that after the second labor she was obliged to lie with her feet higher than her head for two days before reaction was established. In the third labor he used hot water in the manner described as a prophylactic. Having delivered the placenta by the method now called Crédé's, the moment it was delivered he had the hot water ready and injected about a quart. The uterus contracted at once, there was no bleeding, and the secondary hemorrhage which had occurred in her previous labors did not appear. The case progressed like an ordinary normal labor.

The one great advantage in the use of the hot water is that it washes out the uterus, bringing away all coagula and shreds of membrane which often form the nucleus for fresh coagulation. This he regarded as very important, and now always uses it after labor without exception. In a large number of cases the bleeding comes from a clot or mass of blood in the mouth of a large vessel at the placental site. The contraction of the uterus, and closure of the mouths of the vessels, are necessary to prevent post-partum hemorrhage. If the clot remains distending the mouth of the vessel and projecting into the uterine cavity, it is practically the same condition as where the placenta blocks up the mouth of the uterus, as mentioned by Dr. Parish: the uterus cannot completely close, the patulous vessels do not collapse, and the blood continues to pour forth in excess, coagulating and accumulating, until suddenly the whole uterus relaxes. If this is overlooked and neglected and a complete clearing-out of the uterus not insured at first, bleeding may occur in the course of a few hours after the physician has left the house, and the patient may lose her life before he returns. He had never yet seen the case in which the hot water had been used where secondary hemorrhage appeared.

In hemorrhage, also, from the neck of the uterus, which, as has been already stated, occurs from a different cause from that in the cavity of the uterus, namely, from a laceration of its tissue, hot water is very serviceable; it is both very efficient and easy of application. He thought that by its aid post-partum hemorrhage is shorn of its terrors, for now we need not be afraid of its appearance, having a syringe and a pitcher of carbolated hot water ready for injection.

Dr. M. O'Hara, in reply to Dr. Packard, said that he did not think post-partum hemorrhage is very common in this country: in a large practice he had seen it in very few cases. He inquired whether tincture of iodine is now used for intra-uterine injection, as it was very much praised a few years ago in post-partum hemorrhage. In regard to Crédé's method, he had not been able to detach the placenta in some cases by this means, and was obliged to introduce his hand. He recalled a case reported by the lecturer some years ago to this Society, in which about one-third of the placenta was allowed to remain in the uterus on account of adhesions, and gave no further trouble.

Dr. George Hamilton said that he well remembered the case mentioned by Dr. O'Hara: one-third of the after-birth remained in the uterus. The woman gave birth to the child three or four weeks before it was expected; the fœtus was still-born, the placenta adherent. There was no hemorrhage of any consequence in this case, although it was necessary to introduce the hand up to the fundus of the uterus on the left side and tear off the placenta. He could not succeed in removing it all, there was so much hardness and toughness of the placenta; only about two-thirds came away. There was still no hemorrhage. Having consulted several friends upon it, he decided to leave the remainder in. Dr. Carson agreed with him that it was not justifiable to use any more force. He afterwards saw Dr. Goddard, who insisted that it must come away. He tried it again, but failed. Nothing adverse happened; the woman got over it, and could not afterwards remember that she ever passed away any more fragments.

In many cases he had left the placenta in for twelve or eighteen hours without bad results. In the second case included in the paper there was not much hemorrhage at the time, but she had previously lost a great deal of blood.

Dr. Blackwood read a paper on "Anthracæmia." (See No. 339, p. 102.)

A vote of thanks to Dr. Hamilton and Dr. Blackwood was unanimously passed.

F. W.

Ointment for Sore Nipples.—

℞ Tannin, ʒj;
Subnitrate of bismuth, ʒij;
Vaseline, ʒj.

M. Sig.—To be applied constantly when the child is not nursing.

TRI-STATES MEDICAL SOCIETY.

PROCEEDINGS OF THE SIXTH ANNUAL SESSION.

Held at LOUISVILLE, November 9, 10, 11, and 12, 1880.

Reported for the *Philadelphia Medical Times* by A. H. KELCH, M.D.

THE Tri-States Medical Association began its sixth annual session in Louisville, November 9, 1880, at the Masonic Temple, there being present at the opening perhaps fifty visitors from different portions of the States included by the organization.

The forenoon session of Tuesday was devoted to the deliverance of addresses of welcome by the municipal and State officers and members of the medical profession, and to the transaction of necessary business, such as the reports of the various officers and committees. This business being speedily dispatched, the afternoon session began the regular work of the programme. Dr. H. V. Black, of Jacksonville, Ill., read a paper on the "Histopathology of Scarlet Fever," the notable points in which were that the doctor holds the view that the tissues of election by the disease are those evolved from the external and internal blastodermic membranes, and that when the disease extends to tissues more or less widely differentiated from these it is accompanied by a radical change in the character of the inflammatory process peculiar to the disease; that the desquamation extends to the alimentary tract, and that this theory will account for many of the sequelæ of scarlet fever, which many regard as complications, while they are in fact intrinsic phenomena of the disease. Thus the affection of the kidneys, he says, while a grave lesion in some cases, is none the less a factor of the disease in all cases.

Dr. J. B. Richardson, of Louisville, read a paper on the subject of "Tubercular Cerebral Meningitis," and under the call for volunteer papers Dr. William H. Wathen, of Louisville, read a paper on "Lacerations of the Cervix Uteri."

The address of the president, Dr. H. B. Buck, of Springfield, Ill., was delivered at 7.30 P.M., after which it was announced that Dr. S. W. Gross, of Philadelphia, would favor the Society with a paper, which he did on the following morning, on the subject of "Malignant Tumors of the Mammary Gland." The paper was founded on the facts contained in the work of Dr. Gross on this subject.

Dr. B. M. Griffith, of Springfield, Ill., read a paper on "The Practice of Medicine," touching upon the various theories as to the causes and treatment of disease as each has presented itself and had its day of preference. After Dr. Griffith came Dr. Horace Wardner, of Anna, Ill., president of the State Board of Health. Dr. Wardner read an interesting paper on "State Medicine."

At the afternoon session Dr. Dudley S. Reynolds, of Louisville, exhibited Snellen's *Phacometer*, constructed by Kaganaar, of Utrecht, and an improved form, constructed under the direction of Prof. Reynolds, by Cook & Sloss, of Louisville. The improvement to which attention was called consisted in the addition of a graded dial attachment to the sliding register. The advantages of this improvement are found chiefly in measuring cylindrical lenses, the axes of which appear instantly on observing the luminous points upon the register, noting only the direction of the lines which show the axes of the lens. A great addition to the convenient manipulation of the phacometer was made by Cook & Sloss, who placed a box over the beam of the instrument extending from the lamp to the centre of the beam. In the plate which holds the two lenses are fastened on each side brass rods pointing directly in the horizontal line, upon which the frames of spectacles to be tested may rest. This secures absolutely invariable relations between the spectacle lenses and the register on the dial-plate. An improvement has also been made in the clasp, which is now made to work by a spring attachment, which holds the jaws of the clasp gently together and allows separation of them without any opening of the stem. The bellows attachment extends from the dial-plate of the proximal lens at the centre of the beam, and, as the ribbon is made to draw the dial-plate towards the centre, the bellows arrangement admits of simple folding of the apparatus, thus constituting a telescopic tube of folding capacity as well as that of extension. The value of the phacometer for testing spectacle lenses can scarcely be appreciated by those unacquainted with the instrument. The spectacle lenses commonly found in the shops rarely have uniform refracting powers. They generally show in the direction of one of the crossed lines of luminous points a want of symmetry, and have rarely, in the quadrants brought under observation by the phacometer, an equal amount of refracting powers. This announcement proved somewhat astonishing to a number of the gentlemen present, and several pairs of spectacles were at once passed up to the stage for examination, but one pair of which was found to be correctly graded. It was announced that most of the lenses in oculists' test cases put up by the best and most celebrated manufacturers are incorrectly graded, and whilst the lenses themselves may be perfectly symmetrical, having definite and distinct refracting powers, they do not correspond to the figures stated upon their margins.

The method of calculating the powers of lenses by their radii according to the metrical system has proved unsatisfactory, as the dioptra, which is the basis of the calculation, is itself an indefinite quantity. The only suc-

cessful method of grading lenses is by the adoption of a system governed by the foci of the lenses themselves. For example, in grading a series of lenses it should be borne in mind that it may be necessary to recognize such as have refracting powers sufficient to focus light at the distance of about three-sixteenths of an inch from each other, bearing in mind that this space is a fraction less than the grades of high refracting lenses marked one-fourth. We are then prepared to recognize such as correspond to some definite mathematical scale of projection in refracting power, without attempting to measure actually the radius of curvature upon the surface of a transparent body of small dimensions. The phacometer offers a practical test of the real effects produced by compounding lenses. It affords an invaluable method of testing the practical result of all optical calculations for the correction of defects of refraction in the eye. It may thus be seen that the phacometer is an invaluable aid to the oculist as well as to the optician, and that the improvement proposed in the grading of the dial-plate, upon the surface of which the luminous points are projected, forms one of the most useful features of the instrument, for without this it would be extremely difficult to determine the axes of cylindrical lenses; and it is this class of lenses above all others which require graded measurements.

Dr. J. R. Weist, chairman of the section on Surgery, next read a paper on the subject of "Bronchotomy for the Extraction or Relief of Foreign Bodies in the Air-Passages;" under the term bronchotomy were included all operations by which the larynx and trachea are opened. Dr. Weist from the results of a study of eight hundred and seventy-eight cases arrives at the conclusion that the surgical rule proposed by Dr. Gross lacks the confirmation of experience. While the statistics of Dr. Gross show nearly a double percentage of fatality in those cases not interfered with over those in which operations have been performed, the statistics of Dr. Weist show but two per cent. in favor of such operations,—a percentage not sufficient to warrant operative procedures. The following conclusions are reached by Dr. Weist. First, when a foreign body is lodged either in the larynx, trachea, or bronchial tubes, emetics should not be employed, as they increase the sufferings of the patient without effecting an expulsion. Second, inversions of the body are dangerous, and should not be practised unless an opening has been made in the trachea. Third, when symptoms of suffocation are imminent, an operation should be employed at once; also when dyspnœa is progressive. Fourth, when the foreign body is movable up and down the trachea an operation is indicated. Fifth, while a foreign body excites no dangerous symptoms, tracheotomy should not be performed. Sixth, while a foreign body remains fixed in the trachea (modifying conditions above given excepted), tracheotomy should not be performed. He warned against the dangers of hurried operations, and closed the paper with a general description of the operation not differing materially from what is authorized by surgical writers.

Dr. George B. Walker, of Evansville, Ind., chairman of the Obstetric section, read a paper on that subject, in which he dates its birth as a science from the time when "turning" was first advocated. He held the view that with the advantages given the operator by a thorough knowledge of this procedure, the indications for the use of the forceps were very few. Indeed, he is inclined to believe obstetrics would not have been materially deficient had they not been introduced, and he thinks that in a vast majority of cases the short, straight forceps will meet the indications. Post-partum injections of medicated solutions may be regarded as meddlesome midwifery. Quinine is regarded as a stimulant and excitant of uterine contractions, and ergot in the hands of intelligent men is approved. The more serious operations in connection with the subject were alluded to, the views of the author coinciding with those of established authority.

Dr. E. W. Jenks, of Chicago, chairman of the section on Gynæcology, read a paper on "The Relations of Goitre to Pregnancy and the Generative Organs of Women." He says, "That the thyroid gland is in close sympathy with the uterus is acknowledged by both ancient and modern writers." The author, "having seen many cases of enlargement of the gland in young girls about the age of puberty, and among the cases appearing at his clinic, where the affection could be traced directly to disorders of the generative system, was led to believe the subject worthy of study." He tersely remarks that "while most authorities attribute the affection to the geographical conditions of a country, yet when it comes to establishing those conditions there is a universal diversity of opinion." Dr. Jenks apologized for the brevity of the paper, which might have been continued to the gratification of those present.

The usual banquet was held on Wednesday evening.

On Thursday morning, Dr. David Prince, of Jacksonville, Illinois, read a paper on the "Dressing of Wounds." The principal feature of the paper was the advocation of treating lacerated and contused wounds that necessarily cause great loss of substance from slough by immersion, when possible, in a solution of salicylic acid, the proportion being $\frac{6}{1000}$, or of carbolic acid $\frac{1}{100}$. This immersion is to be constant throughout the whole treatment, when the situation of the wound will admit of it. Otherwise, frequent irrigation with the same solution is advocated (every twenty minutes). Cases were detailed where the results had been highly gratifying

after a treatment by constant immersion extending over one hundred and twenty-two days.

Dr. Wm. Dickinson, of St. Louis, read a paper on Hemiopia,—mechanism of, causation of, on the theory of total decussation of fibres of the optic tracts at the chiasma. Dr. Dickinson worked out the subject very clearly and comprehensively, and succeeded in convincing the audience of the correctness of the theory.

Dr. C. H. Hughes, of St. Louis, read on the subject of "Psychiatry." Dr. Hughes thinks that at present too many cases of mental aberration are sent to asylums for treatment. The question of consignment to an asylum may be more satisfactorily answered by attention to the following questions: "Is the patient so regardless of the proprieties of life as to render him unfit to remain longer at home?" "What antipathies has he for those by whom he is surrounded, and is there danger to wife, husband, or child?" "Can the patient be treated and cured by medicine alone?" "How long would it be safe to treat a patient in the midst of those surroundings which may have excited the malady and still contribute to aggravate it? are any such conditions removable?" "Does the patient persistently refuse food, and is his condition in many or most respects such as to require those agencies, appliances, gentle restraints, and constant surveillance which only a good and well-appointed hospital can give?" "How can the physician approach daily and treat the patient without incurring his dislike?" An intelligent and correct answer to such questions Dr. Hughes thinks would enable physicians to avoid many of the evils of the too indiscriminate consignment of patients to insane hospitals. He then proceeds to speak of those who are the proper subjects for asylum treatment, and among these he includes cases of puerperal insanity, many hopeless cases of which he thinks justly attributable to the inadequate nourishment furnished by the post-parturient low diet. Cases of insanity during utero-gestation. This form, by appropriate treatment, may be kept in abeyance until the crisis is past, but these cases require close surveillance to insure the safety of both mother and child, and the asylum is often the only refuge for such patients. Cases of progressive paralysis of the insane, he says, being as happy in one place as another, and seldom or never dangerous, can be treated as well at home as at the asylum. Acute psychic disturbances dependent upon hyperæmia are quickly relieved by appropriate treatment, but had better be treated at an asylum, because they require constant watchfulness. Cases of senile dementia in old men, when harmless, should always be kept out of asylums. Mild cases of melancholia frequently develop into the worst form of insanity, and should always be treated at the asylum. The moral effect exercised by the contemplation of such cases as can be comprehended by these patients will often lead them to abandon their own delusions. Dr. Hughes touched upon the subject of the rights of the insane, and with a few remarks upon this subject closed an excellent paper.

Thursday afternoon, Dr. Williams, of Cincinnati, read a paper on the subject of "Amblyopia from Disuse." He said, While it is true that if for any cause the action of a set of muscles is kept in abeyance they decrease in size and power, this is not true of the organ of vision. Old writers were in the habit of attributing imperfect sight to amblyopia from disuse. Von Graefe was the first to question this. He removed a cataract from the eye of a woman sixty years old, who had been blind in that eye from the age of three years. After the removal the perception of light was immediate, though the function of sight had not been performed for nearly sixty years. That experience inclined him to think that a long cessation of vision does not affect sight. Still, he insisted that cataract from birth, prohibiting the exercise of vision, is liable to be followed by amblyopia from disuse. Hence he advocated an early operation. My own results have been uniformly better from an early operation.

The most frequent form of amblyopia from disuse is that from strabismus confined to one eye. Some have contended that the amblyopia detected in monolateral squint is due not to disuse but to pre-existing congenital amblyopia. Very often, however, the sight of the worst squinting eye from early infancy, even in advanced years, is not perceptibly reduced. In such instances the patient has probably had alternating strabismus. In this affection the ophthalmoscope reveals no defect in the eye, though one may have perfect vision and the other be entirely useless. This is the case in monolateral squint. A curious fact in this connection is that those portions only of the retina become insensible which functionate in normal vision. Besides, the individual acquires the power of suppressing the image of the squinting eye, and in a short time this image is utterly ignored by the mind. Dr. Williams then detailed the case of an old man who had suffered from squint for years who, when his sight began to fail in the fixed eye, by a peculiar process of training acquired the faculty of fixation of the squinting eye, and thus had nearly normal vision restored to him. With the details of another similar case, Dr. Williams closed his very interesting paper.

Dr. William Porter, of St. Louis, read a paper on "Objective Points in the Treatment of Phthisis." Dr. Porter confined himself almost exclusively to the discussion of the self-limitation of phthisis. He took for a basis of discussion the cases presented by Dr. Flint, who said, "Phthisis is self-limited when

it ends in recovery irrespective of extraneous influences derived from either hygiene or therapeutics. Only patients who recover without any potential remedies having been employed, and when there has been no material change in the daily life and habits, can be said to have recovered exclusively by self-limitation." Of the seventy-five cases on which Professor Flint based his conclusions, forty-four ended in recovery, and in thirty-one the disease ceased to progress, in a majority of cases for several years. Of the forty-four cases ending in complete recovery, there was no medicinal treatment, Professor Flint says, to which the recovery could be attributed. Of the thirty-one cases that ceased to progress, the history is that "at the last examination of these cases there was evidence of the disease." These not having recovered, they cannot affect the question. Of the forty-four remaining cases he declines to accept twenty-one of them, because cod-liver oil, one of the most potent agents, had been administered to them. In fifteen of the remaining twenty-three cases hygienic measures constituted the treatment, and this was of the most efficient kind, such as out-door life, travel in Europe, etc. These must be excluded; and if this exclusion be fair and just we have but eight cases remaining. Of these, one became a travelling man, his business involving much exercise in the open air. Dr. Porter continued analyzing the cases until but three were left. He afterwards spoke of the treatment, emphasizing first the importance of thorough exploration of the suspected site of the disease.

"Phthisis being a wasting disease, the important indication," he says, "is to put a stop to the waste or to overcome it;" the measures of treatment then advocated cannot be said to differ materially from what have been advocated in the last three years.

Dr. H. C. Fairbrother, of East St. Louis, next read on the subject of "Mediæval Medicine." He confined his observations to the subject of medicine as practised by and confined to the priesthood. The tenor of his paper was objectionable to several members of the Society, who took it to be an arraignment of the Christian religion from beginning to end.

Dr. Arch. Dixon, of Henderson, Ky., read a paper on the subject of "Arrest of Evolution *vs.* Maternal Impressions." After quoting extensively from physiological authors concerning the development of the fœtus, and after noticing the similarity between the human embryo and that of the lower animals, Dr. Dixon reaches the conclusion that congenital malformations, in which deficiency of structure is apparent, are the result of arrest of evolution. Excess of the same process is made to account for malformations in which supernumerary parts are displayed; and, further, some deformities not attributable to either, he thinks, can very appropriately be attributed to placental inflammation and adhesions.

Dr. W. W. Seely, of Cincinnati, read on the subject of "Non-Astringent Caustic Treatment of Conjunctival Inflammations."

Dr. Seely says, "It was only the most complete conviction of the truth of my experience that led me about three years ago to publish an article entitled 'The Astringent Caustic Treatment of Trachoma: is it Tenable?' My early experience was that the so-called astringent caustic treatment of all conjunctival affections, but more especially the trachomatous variety, was uncertain, as it was difficult of comprehension, painful, and often detrimental.

"Trachoma, as all are aware, has ever been an opprobrium; and it was this disease, especially when complicated with corneal trouble, that first aroused my suspicions that something was radically wrong. These suspicions became so profound that there was quite an interval during which I was at an almost total loss how to act. I finally began to abandon all treatment for the lid trouble when either the cornea was actually involved or there was a marked tendency to it, and simply directed my attention to the so-called corneal complication." He then speaks of the unsatisfactory results from atropia, and of the success that has followed the application of the yellow oxide of mercury rubbed up with lard.

Concerning the cause or causes of inflammations of the conjunctiva, Dr. Seely says that for him the parasitic theory harmonizes with long clinical experience, and there can be no return to former methods of therapeusis. In reference to the action of calomel he says, "I do not know what proportion of oculists accept Donders's explanation of its *modus operandi*, but certainly all recognize its value." He claims that whatever of benefit arises from astringents comes from *indirect antisepsis*.

Dr. Seely now discards in these cases astringents, along with caustics and atropia, and uses in their stead the yellow oxide of mercury in vaseline, and, in cases of corneal trouble with great lachrymation or secretion, eserin.

Dr. Gustav Zinke, of Cincinnati, next read on the subject of "Quinia-Inhalations in Diphtheria." After speaking of the futile attempts made to treat the disease by the most prized remedies, and the successful termination of many cases when treated by the most simple means, he attributes much of the success in the cases successfully treated by the most simple means to the idea prevailing in the minds of many practitioners as to what constitutes diphtheria. He enters quite largely into the subject of diagnosis, saying that ever since the disease has been first described every writer and teacher has held ideas peculiar to himself concerning the causes and pathology of the disease. Dr. Zinke then accepts the

opinions of Oertel and F. Seitz (Niemeyer), but remarks that their divisions of the disease seem to him as so many stages of the malady, and that it may be confined to one of these or pass on slowly or quickly from the mildest to the most severe. His guides in the diagnosis in the early stage of the disease are, first, a painful throat with febrile excitement; second, a reddened and swollen mucous membrane, marked here and there with distinct fungous growths, or, as he has occasionally observed, with spots that simulate a light application of the nitrate of silver; third, enlargement of the lymphatics of the neck. In looking over the list of remedies, he says there is scarcely one but has had its advocates and its opponents. Only in one respect do all agree, and that is that both local treatment and constitutional treatment are necessary, and that both are apparently of equal importance. Dr. Zinke favors the idea that the disease is merely local in the beginning and afterwards constitutional. After detailing the other methods of treatment that have been employed, Dr. Zinke comes to the conclusion that the only ready method of treatment and the only reliable one is by inhalations of some solution by the atomizer, and for that solution he names quinia as the best agent. Dr. Zinke refers to thirty-five cases reported by him to the Academy of Medicine at Cincinnati, after treatment by this plan, and to seven other cases treated in the same way since the former report, with a mortality altogether of but five per cent. Dr. Zinke seems to use heroic treatment, inasmuch as the solution he advocates is from ten grains to a drachm to the ounce of fluid. A constitutional treatment of aconite and stimulants is also advocated, and as local applications heat or cold, according to the desires of the patient. He emphasizes the importance of the thorough and continued use of the inhalation. He meets the objections to their use in a manner creditable not only to himself, but also to the Society whose influence has called forth the paper.

The only question as to the value of the treatment would remain as to the diagnosis. If it has been correct,—and it seems to be so,—Dr. Zinke deserves credit for his enthusiasm in the treatment.

At the close of Dr. Zinke's paper a vote of thanks was tendered the officials, the press, and the profession of Louisville, for their kind treatment towards the Society, and the meeting adjourned, to meet at St. Louis next year.

Dr. William A. Owen, of Evansville, Ind., was elected President, and Dr. G. W. Burton, of Mitchell, Ind., re-elected Secretary.

PROFESSORS Hofmann, of Berlin, and Kekule, of Bonn, and other chemists, have published analyses of Apollinaris water, which all agree in showing that it is a very pure water, with about one-quarter the quantity of alkaline salts contained in Vichy water.

REVIEWS AND BOOK NOTICES.

THE AMERICAN JOURNAL OF OTOLOGY, A QUARTERLY JOURNAL OF PHYSIOLOGICAL ACOUSTICS AND AURAL SURGERY. Edited by CLARENCE J. BLAKE, M.D., in conjunction with PROFESSOR A. M. MAYER, of Hoboken; ALEXANDER GRAHAM BELL; Dr. ELLIOTT COUES, U.S.A.; PROFESSOR A. E. DOLBEAR, Tufts College, Mass.; Dr. ALBERT H. BUCK, of New York; Dr. CHARLES H. BURNETT, of Philadelphia; Dr. SAMUEL SEXTON, of New York; Dr. J. ORNE GREEN, of Boston; Dr. H. N. SPENCER, of St. Louis. Vol. ii., 1880. New York, William Wood & Co.

When this journal first made its appearance, two years ago, we drew attention to the strong list of contributors, and to the valuable character of both the scientific and the practical papers contained in its earlier numbers. The lapse of time has shown that the high standard originally established has been more than maintained, and the numerous and valuable original articles which have appeared in its pages prove that the journal continues to fulfil the aim with which it set out, to serve not only as the organ of American otologists, but also as at once the purveyor of original and valuable knowledge on the treatment of ear diseases to the general profession, and a medium of expression for writers on scientific matters connected with the organs of hearing, particularly in connection with physiological acoustics. This truly American and scientific periodical is one which is in the highest degree honorable to the profession in this country, and, we are glad to learn, is receiving, at least in some measure, the support which it deserves.

Space prevents our giving more than the most cursory glance at the series of scientific and practical papers spread over the pages before us, but we may mention, among the more notable of the strictly scientific papers, those of Professor Dolbear, "On the Number of Vibrations Necessary for the Recognition of Pitch;" of Alexander Graham Bell, "Experiments relating to Binaural Audition;" and of Charles R. Cross and William T. Miller, "On the Present Condition of Musical Pitch in Boston and Vicinity." Of the numerous practical papers which fill the successive numbers, we may mention Dr. Charles H. Burnett's, on "Uninterrupted Wearing of Cotton Pellets as Artificial Drum-Heads;" and Albert H. Buck's, on "The Comparative Value of Leeches, Heat, and Incisions in the Treatment of Acute Circumscribed Inflammation of the External Auditory Canal." These are just such papers as the intelligent general practitioner reads with interest and advantage. The reviews of current literature are very full and complete.

THE THERAPEUTICS OF GYNÆCOLOGY AND OBSTETRICS. Edited by WILLIAM B. ATKINSON, A.M., M.D., etc. Philadelphia, D. G. Brinton, 1880.

Specialists of extended reputation may covertly sneer at compendiums, each preferring to recommend his own exhaustive treatise; but the hard-worked doctor who lives beyond the hot-house air of our medical centres, where physicians imbibe the latest idea unconsciously with their breath, will thank the editor of this work for placing within easy reach the collated views of many eminent writers, and their special recommendations in therapeutics.

The work is a very valuable member of the series to which it belongs. The editor has acted with great judgment in his labor, and the three hundred and fifty pages can scarcely be read without leaving in the mind many new ideas. Life is growing relatively shorter every year, in relation to the amount of study demanded in all professions and the vast number of books and periodicals that must be read if one would keep afloat upon the topmost wave. A work, therefore, which furnishes a careful digest of various authors, and arranges their views upon various topics together, cannot but save time and prove of great value. E. W. W.

CONTRIBUTIONS TO ORTHOPÆDIC SURGERY, INCLUDING OBSERVATIONS ON THE TREATMENT OF CHRONIC INFLAMMATION OF THE HIP-, KNEE-, AND ANKLE-JOINTS BY A NEW AND SIMPLE METHOD OF EXTENSION, THE PHYSIOLOGICAL METHOD, AND LECTURES ON CLUB-FOOT DELIVERED AT THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK. By JOSEPH C. HUTCHISON, M.D., Brooklyn. New York, G. P. Putnam's Sons. 12mo, pp. 200.

This handsome volume places in permanent form the articles of the author published already in the *American Journal of the Medical Sciences* and the *New York Medical Record*. The first forty pages contain his views upon the treatment of joint diseases of the lower extremity; and so simple and rational is this "physiological method" that since its promulgation, about two years ago, it has been largely adopted by American surgeons,—at least, with certain modifications. While many will agree with him in the statement that the periarticular muscles are able to fix the hip-joint, yet few will say that it is advisable to compel them to do this work when they can be relieved by the simple use of the same felt which the author employs in treating the knee and ankle, a lock-joint being inserted opposite the hip. Dr. Hutchison's plan consists in lengthening the sound leg some two or three inches by means of a steel, wood, or cork attachment to the shoe, and then putting the patient upon crutches in order to make the diseased member the extending force.

In the lectures upon club-foot the author discusses fully the causes, pathology, and treatment of this unfortunate class of cases. He differs from the majority of American surgeons in that he waits four days after tenotomy before bringing the foot by manipulation into position. His use of plaster of Paris as a retaining-splint after operation is excellent, and saves the expense of a first shoe, while it lessens the risks of sloughing. Page 71, upon the manual treatment of this deformity, is especially worthy of perusal.

The simplicity of the plans of treatment renders the book a valuable one to the general practitioner as well as to the specialist.

DE F. W.

A PRACTICAL TREATISE ON NASAL CATARRH. By BEVERLEY ROBINSON, A.M., M.D. Paris. New York, William Wood & Co., 1880. 8vo, pp. 176.

This book is a carefully-prepared record of the author's views on the causes, symptoms, and treatment of catarrh in the nose and nasal pharynx. The method employed is elaborate, and the conclusions arrived at are stated temperately. The subjects embraced in the contents are coryza, hypertrophy of the turbinated bones, and follicular disease of the naso-pharynx. These affections are separated from one another with more or less success. We cannot cavil over imperfect definitions or rules of diagnosis, however, when the low state of this department of medicine is borne in mind.

It is to be regretted that the classification of the standard writers is often departed from without explanation; for example, that ulcerous catarrh is frequently alluded to without being anywhere distinctly defined, and that ozæna is not mentioned as a nasal disease, while the author has not hesitated to use the word in his discussions. It would further assist the reader if the paragraphs were shorter and the references to the writers quoted had been more uniform. But these are slight defects, and will not interfere with the usefulness of the volume. It is enough for the practitioner to remember that he can find in Dr. Robinson's volume a reliable guide in the treatment of a group of obstinate disorders.

H. A.

ARCHIVES OF OTOLOGY. Vol. ix., No. 3. New York, G. P. Putnam's Sons, September, 1880.

The most interesting papers in this number are those of Gottstein and Guye, upon Ménière's disease. Defining this disease as an affection of the internal ear associated with vertigo, the practical question arises, Is the vertigo a primary or a secondary symptom? This query suggests a second, viz.,—How can the vertigo of Ménière's disease be distinguished from vertigo having its cause in other structures than the labyrinth?

Gottstein finds two groups of cases in which deafness and disturbances of equilibrium are united. One of these he assigns entirely to meningeal origin, the deafness being an associated symptom thereof. In another the deafness and vertigo appeared simultaneously and distinct from meningeal symptoms.

Guye brings together a number of cases of disease of the middle ear in which the vertigo and a variety of symptoms referrible to the central nervous system supervened as complications. He notes, as important points, that the sensations of rotation are invariably towards the affected ear; that a current of cold air or the direct contact of cold water upon the affected ear is peculiarly noxious; and, finally, that the patient is not apt to suspect his ear as being in any way connected with his disease.

Dr. F. C. Hotz narrates three interesting cases in which acute purulent otitis was thought to be dependent upon malarial poisoning.

A Manual of Medical Jurisprudence. By Alfred Swaine Taylor, M.D. Eighth American from the Tenth London Edition. Containing the Author's latest Notes made expressly for this Edition. Edited by John J. Reese, M.D. Philadelphia, H. C. Lea.

It is not very often that a medical book reaches its tenth edition, or that the last earthly labor is performed by the author in retouching the work that first came from his hand thirty-five years before. All this, however, has happened in the case of Dr. Taylor and his classical treatise. The pen dropped from the grasp only when the shadows of old age were rapidly deepening into the darkness of death. Under the circumstances, all the journalist has to do is to announce, not criticise, the completed task. The value of the gem is too well known to require more than the telling that the master-hand has rebrightened its facets and polished its angles before leaving it as his legacy to his brethren in the profession.

Descriptive Atlas of Anatomy. Philadelphia, J. B. Lippincott & Co.

This royal quarto volume is composed of ninety-two plates, containing five hundred and fifty figures, a preface of two pages, and an index of eleven pages. The Atlas is intended chiefly for the use of students, and has been prepared by a London hospital surgeon, whose name graces neither title-page nor preface. Is he ashamed of his work? After examination we do not find that he has any cause to be, except those plates illustrating the brain, where the old, stale, flat, and unprofitable figures and methods of Gray and other text-books are reproduced; but then it would be a rare surgical intellect which would rise to the comprehension and knowledge of brain anatomy as required by the physiologist and neurologist. The drawing of the figures is by no means fine, but it is bold and strong, and the arteries and veins are appropriately colored, which brings a strong relief. As all parts of the figures are copiously named *in situ*, it can be seen that the volume offers great facilities for refreshing of the memory and for coaching. We have met with some practitioners as well as students to whom anatomy partook of the nature of a lost knowledge, if not of a lost art. To such the present volume would be very useful. The most extraordinary thing about the work is its cheapness, the full retail price being only $7.50. With the usual discount off, this would be about one cent a figure, —a color—if not blood—stained figure at that. Unsigned paintings, unwarranted auction-horses, and anonymous scientific books belong to classes which the wise man views with deep distrust; but the present volume hides no secrets. Its face-value is all it has, and to take this at the price at which it is offered is to embrace a bargain.

GLEANINGS FROM EXCHANGES.

Case of Imperforate Rectum—New Treatment.—Dr. Neil Macleod's case (*Brit. Med. Jour.*, vol. ii., 1880, p. 657) was that of a female infant in whom, the bowels not having been moved twenty-four hours after birth, a probe was passed into the anus, which was found to communicate with a *cul-de-sac* about half an inch in depth. The probe was then passed into the vagina for nearly two inches. It could be moved about with freedom, and could be felt readily from the anal *cul-de-sac*, where the rectum should have been. There was no bulging in the perineum.

A perineal exploration was made for the rectum, the operator cutting carefully in the middle line to the depth of an inch and a quarter without being able to feel with the finger anything like a bulging, loaded bowel. Littré's operation was performed, some hemorrhage ensued from abdominal vessels, and death took place nine hours later. The necropsy showed the peritoneal cavity perfectly free from any trace of inflammation, blood, or meconium. The perineal wound did not communicate with the peritoneal cavity. The rectum was completely imperforate, being represented by a slender, impervious, fibrous cord, running down from the descending colon, almost in the middle line, into the pelvis behind the uterus, and attaching itself to the posterior wall of the vagina opposite the os uteri. It could be traced for three-quarters of an inch along the posterior vaginal wall, where it spread out and became lost thereon. The descending colon ended in a *cul-de-sac* at the pelvic brim, greatly distended, being about three times the diameter of the colon three or four inches higher up. The va-

gina was long and roomy, and had very thick walls. The cervical portion of the uterus had a diameter twice that of the fundus uteri. The bony pelvis was normal. In his remarks on the case, Dr. Macleod says that the objections to Littré's operation are: hemorrhage, opening the bowel in the wound, leading to the risk of the escape of meconium and blood into the peritoneal cavity, and the very grave one, if the patient live, of having an artificial anus in the groin. He suggests that when the ano-perineal operation fails to reveal the bowel an incision should be made in the abdominal wall of convenient length between the umbilicus and pubes in the middle line (or a little to the left of it, to avoid the urachus and the hypogastric artery). Next, he says, introduce the forefinger of the left hand into the abdominal cavity, examine the descending colon and rectum to discover the seat and relations of the upper *cul-de-sac*, then pass the same finger down into the pelvis in the middle line (behind the uterus in the female, the bladder in the male), and, pressing the tip of the finger against and pushing outwards the floor of the pelvis, cut upon the tip of the finger as a guide, thus opening into the peritoneal cavity from below. Next introduce the right forefinger through the perineum, and, guided and assisted by the left, hook the right finger round the gut, and pull it downwards and out through the perineal incision. Stitch the opening in the abdominal wall, then open the gut and stitch its edges to the edges of the perineal wound in the manner before described. Should the difficulty arise, from mesenteric relations, of bringing the bowel down from the pelvic brim (only in the worst cases) to the perineum, the mesentery could be torn or cut through and vessels tied. Whatever the nature or degree of malformation, the rectum on the right side, partially or completely imperforate, opening into the uterus, vagina, bladder, or urethra, by the means suggested (failing the ano-perineal operation) the condition could be more properly ascertained and dealt with. In some cases the peritoneal cavity need not be opened from below. Antiseptic precautions should be employed.

Blood-Poisoning.—A singular case of blood-poisoning occurred at Berne recently. A man, who for several days was suffering from toothache, went to a dentist, who advised him to apply a leech to the gums. The man did as he was ordered, but two hours afterwards he found himself worse, and remarked that his lips were commencing to swell, and soon this swelling extended to the face, neck, and chest. He waited until the following day to call in a doctor, but by that time the whole head became involved, the respiration became difficult, and high fever set in. A few hours later the patient became delirious, and was seized with convulsive movements; he appeared at times to sleep with the eyes open. On the second day he succumbed. Professor Langhans, having made the post-mortem in the presence of two other well-known professors, declared it to be a case of blood-poisoning. The wound produced on the gums by the leech had enlarged itself, showing gangrenous edges. It is evident that this bite had transmitted a virus, which had thus poisoned the blood. But how this virus could have been introduced into the leech, which had been in the chemist's shop for several days, could not be ascertained.—*Medical Press and Circular.*

How to Cover the Odor of Iodoform.—Several methods have been proposed, the following of which, according to *New Remedies*, are the best. 1. Tannin mixed with the iodoform in equal parts. 2. Oil of peppermint in the proportion of a drop to every drachm. 3. Lavender water and eau de cologne have been recommended, but are not so effectual as the peppermint. 4. Balsam of Peru, 3 parts; iodoform, 1 part; vaseline, 8 parts; or, in place of the latter, alcohol, collodion, or even glycerin. 5. Oil of sweet almonds added in equal quantity to the iodoform. 6. Oil of bitter almonds. One or other of the first two methods is probably to be preferred.—*British Medical Journal*, vol. ii., 1880, p. 692.

Death from Ether.—Dr. N. C. Dandridge reports a death from ether. A full account of the case, which was discussed by the Cincinnati Medical Society, will be found in the *Cincinnati Lancet and Clinic* for October 30.

MISCELLANY.

Pure Water in Cities.—We are told upon high authority (Dr. Henry I. Bowditch) that "only one-third of the towns and cities of this nation make any claims, even the most trivial, of endeavoring to procure pure potable water for their inhabitants. The remainder (65.73 per cent.) either confess carelessness or ignorance of the subject. In other words, over one-half of the people of these United States are openly and avowedly living in a senseless disregard as to whether they are drinking pure water or water contaminated by every kind of filth."

Popular Physiology.—It appears that under the new "scientific" influences children in the London Board Schools are taught physiology. An examiner having put the question, "Mention any occupations which you consider to be injurious to health, giving reasons for your answer," one girl's complete answer to this was, "When you have a illness it makes your health bad, as well as having a disease." Another said, "Occupations which are injurious to health are carbolic acid gas, which is impure blood." Another complete answer was, "We ought to go in the

country for a few weeks to take plenty of fresh air to make us healthy and strong every year." Another complete answer was, "Why the heart, lungs, blood, which is very dangerous." The word "function" was also a great puzzle. Very many answered that the skin discharges a function called perspiration. One girl said, "The function of the heart is between the lungs." Another said, in answer to "What is the function of the heart?" "Thorax." Another girl, in answer to a question, said, "The process of digestion is: we should never eat fat, because the food does not digest."

PREVALENCE OF ADULTERATION OF FOOD.—The recent report of the State Board of Health, Lunacy, and Charity of Massachusetts (*Sanitarian*, November, 1880, p. 511) contains a paper by Mrs. Ellen Richards, Instructor in Chemistry in the Woman's Laboratory, on the "Adulterations of Some Staple Groceries," which shows a gratifying result. Of 25 samples of flour and 75 of sugar there were no adulterants whatever discovered. One sample of sugar only indicated glucose in a faint degree.

Of soda, the so-called "saleratus, bicarbonate, or super-carbonate, cooking-soda," all being names for one and the same thing, 93 samples were examined: 19 were nearly chemically pure, 43 were good, 25 contained from three to sixteen per cent. of chloride and sulphate of sodium, but of these 25 three only were bad. Alum was not found in a single sample. Seven packages were found without the name of the manufacturer, only the names of the mills being given. Every one of these was adulterated; one was largely flour, the other six contained over fifty per cent. of terra-alba. One other package had the maker's name, but no place of business, on the label, and contained eighty-one per cent. of terra-alba. Two packages were labelled simply "Horsford's Cream of Tartar," and consisted of acid phosphate of lime.

Of baking-powders, 33 samples were tested: 24 were good, containing nothing injurious; some of them contained an excess of starch or flour. Of the remaining nine, eight contained alum, and five of these last also contained ammonia.

PILOCARPIN AND JABORIN.—Drs. Harnach and Meyer (*Annalen der Chemie*) have examined the chemical and pharmacological properties of commercial pilocarpin, and the result of their researches has led them to the conclusion that a new alkaloid, which in lieu of a better name they have called "jaborin," is contained, together with pilocarpin, in the pilocarpin of commerce, jaborin being, in fact, formed out of pilocarpin. According to the authors, pilocarpin is, in its physiological effects, analogous to nicotine, while the effects of jaborin they found to be identical with those of atropin. The separation of jaborin and pilocarpin is based upon their different degrees of solubility in various menstrua, the separation being facilitated by the non-crystallizable property of the jaborin compounds. The presence of jaborin in commercial pilocarpin was indicated by the action of the latter upon a frog, traces of jaborin causing spasms of the heart. Pure pilocarpin the authors found to contain no jaborin. After having, by means of its physiological effects, determined the presence of jaborin in commercial pilocarpin, the authors set to work to prepare it in at least sufficient quantity to enable them to experiment upon it. The raw materials selected for this purpose consisted in part of jaborandi leaves and in part of the so-called false jaborandi, piper reticulatum, and other kinds of pepper. Not having been able to obtain jaborin in a state of perfect purity, the authors have not been at present able to represent it by a formula. Jaborin is a very strong base, differing from pilocarpin by being with difficulty soluble in water and easily soluble in ether. Its salts dissolve readily in water and alcohol, and are not crystallizable.—*Medical Press and Circular.*

FALLING OF THE HAIR.—Mr. James Startin, in the *British Medical Journal*, suggests the following application in general loss of hair without obvious cause:

℞ Ung. petrolei,
Ol. ricini, āā ℥ss;
Hyd. ox. rub., gr. v;
Liq. ammon. fort., f℥ss;
Ol. rosmarini, gtt. v.—M.

ALCOHOL AND DIGESTION.—M. Leven (*Boston Jour. of Chemistry*) claims that seventy-five grammes of brandy to two hundred grammes of meat completely arrest digestion, while twenty-five grammes in the same quantity facilitate digestion. Dr. Rabuteau finds ethylic alcohol far less injurious than amylic.

NOTES AND QUERIES.

ERRATUM.

IN the analysis of the Kittanning Spring-Water (p. 77), by Dr. Reichert, for salicylic acid read *silicic acid*.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM NOVEMBER 14 TO NOVEMBER 27, 1880.

TAYLOR, M. K., CAPTAIN AND ASSISTANT-SURGEON.—To report to Commanding General, Department of the East, for assignment to duty. S. O. 242, A. G. O., November 12, 1880. Assigned to duty at Fort Wayne, Mich. S. O. 204, Department of the East, November 17, 1880.

HOFF, J. V. R., CAPTAIN AND ASSISTANT-SURGEON, Fort Monroe, Va.—Granted leave of absence for one month. S. O. 208, Department of the East, November 26, 1880.

TESSON, L. S., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for six months, with permission to go beyond sea. S. O. 244, A. G. O., November 15, 1880.

BREWER, J. W., CAPTAIN AND ASSISTANT-SURGEON.—Died November 15, 1880.

PHILADELPHIA, DECEMBER 18, 1880.

ORIGINAL COMMUNICATIONS.

WINTER HEALTH-RESORTS—THE CLIMATE OF ATLANTIC CITY, AND ITS EFFECTS ON PULMONARY DISEASES.

BY BOARDMAN REED, M.D.,
Atlantic City, N.J.

WHERE shall we send our invalids for a change of air in winter? This is a practical question which is becoming, year by year, more important to busy physicians, particularly in the great cities of the North. There are certain chronic diseases for which a pure and invigorating air, and especially a climate which will tempt the patients out of doors, are highly desirable. For many cases a change to such an air offers the best hope of cure, or even of amelioration.

Florida has been much in vogue lately as a winter-resort, and undoubtedly suits numerous patients well; but it is too far away, involving a long and tiresome journey. The distance from home and friends, and the impossibility of conferring in an emergency with the usual medical attendant, are serious inconveniences. The prevalence of malaria there is a source of danger, and the very warm and enervating character of the Southern climate unfits it for a large class of diseases altogether.

Colorada and Minnesota are even farther away, and their climates, however tonic and useful, are so cold that invalids there can live very little out of doors during the winter; and if they are to be kept prisoners in close heated rooms it might almost as well be in their own homes.

Northern Africa and Southern Europe, especially Pau, Nice, Mentone, and other places along the northern shore of the Mediterranean, are just now in great repute. Invalids are flocking thither every winter, and, the impartial chroniclers tell us, are leaving their bones in the cemeteries there in sadly large numbers.

Dr. Madden, in his "Health-Resorts of Europe and Africa," says, "With one exception the most frequented winter health-resort in Europe is Pau;" then proceeds to denounce the climate as "essentially cold, variable, damp, and dreary during the winter." During one December while he was there he states that "the thermometer *fell eleven times to zero.*"

Dr. John Parkin, in his work on "Climate and Phthisis," is equally emphatic in condemning that climate, saying, among other things, that "of a number of patients I have known who passed a winter in Pau, not one received any benefit,—the majority died soon after their return.

As to Nice and Mentone, Dr. Madden quotes several medical travellers and former resident physicians to the effect that these places are exposed to very sudden changes of temperature, and that the native residents are very subject to pulmonary complaints, which with them are apt to run a rapid course. Dr. Parkin, in the work already quoted, is particularly severe upon the climate of those places, stating that though it is usually very warm there in the sun, insomuch that umbrellas are indispensable, it is apt to be cold in the shade, necessitating the heaviest wraps. Crossing the street is like passing from summer to winter. The same author shows that, from the location of these towns in the neighborhood of mountains, some of whose tops are always covered with snow in winter, they must be continually subject to cold, raw winds, which are all the more intolerable and dangerous because of the heated air which they displace.

Says Dr. Parkin, "During January and February, then, there would be two cold winds prevailing at Mentone, as is frequently the case at Nice. It is not surprising, therefore, that I should have left the latter town in the month of March in a snow-storm, or that snow should have fallen heavily all the way to Genoa."

Dr. J. H. Bennett, of Mentone, the chief eulogist of that climate, insists very strenuously upon certain precautions against taking cold. "Without them," he says, "it is unsafe and treacherous. This is evidenced by the great mortality of the natives of the Nice and Mentone districts by pneumonia and pleurisy, two of the commonest maladies."

Dr. Parkin's conclusion is that the *Riviera* is "one of the most unfavorable and dangerous climates for chronic diseases of the respiratory organs, and especially for phthisis." As to Africa, he cites army reports showing that "of the British troops

passing through Egypt during 1872 *en route* for India, 29.9 per 1000 were attacked with phthisis and 2.3 per 1000 died." He adds, "When it is remembered that these patients manifested no symptoms of the disease when they left England, otherwise they would have been detained, this result speaks trumpet-tongued as regards the influence of such a climate in the development of phthisis."

If these are the most desirable winter-resorts in the Old World, American invalids, especially those suffering from chronic pulmonary affections, would do well to remain on this side of the ocean.

Atlantic City, New Jersey, a place most favorably located as regards convenience of access, being less than two hours' ride from Philadelphia by any one of three railroads, and only four hours from New York by the Pennsylvania Railroad and its West Jersey branch line, possesses certain physical advantages which are well worth considering. It has been twenty years or more since physicians began sending patients here in winter. First only now and then a courageous invalid ventured here at this season, but their numbers steadily increased. The experiment proved so successful in hastening the convalescence from acute disease, in improving a large class of chronic affections, and especially in arresting numerous cases of incipient as well as confirmed consumption, that within the last three years the travel to the place in winter has reached very considerable proportions, and the numerous thoroughly heated winter hotels—some of which are as sumptuously furnished and as luxuriously conducted as the leading houses at the summer-resorts — are crowded with invalids, convalescents, and wearied society people through all the months from January on.

Actual experience has demonstrated that sea air is as valuable in winter as in summer. It also bears out the statistics which prove that the climate of Atlantic City is superior to that of most sea-coast towns, being drier, more equable, and, considering the latitude, unusually mild.

The city—for it is in fact as well as in name a city, having a permanent population of six thousand, and being supplied with gas, street-cars, etc.—is situated in latitude 39° 22′, on an island ten miles long and averaging about half a mile wide. This is separated from the mainland at either end by broad bays or inlets, which are connected by a narrow arm of the sea called "The Thoroughfare." There is no body of fresh water nearer than the Delaware River, distant about sixty miles, and the salt-water bays to the landward side are nearly always open, ice seldom forming, except for a short time occasionally in the severest winters.

Another peculiarity of the location is that all the winds from the landward must pass for long distances—hundreds of miles in some directions—over a very dry and porous sandy soil upon which snow rarely lies for any time. These winds, including those from the north, northwest, west, and southwest, are therefore to some extent both dried and warmed in their passage.

Though the coast of Southern New Jersey has a general direction from northeast to southwest, the beach at Atlantic City trends more to the westward, so that it faces almost directly southward. Therefore south as well as east winds are sea-breezes here, and both blow across the Gulf Stream, which, by the way, exercises considerable influence upon the climate of this part of the coast.

Mr. C. P. Patterson, Superintendent of the United States Coast and Geodetic Survey Office at Washington, has kindly furnished me with a large map indicating accurately the course of the Gulf Stream, and with some interesting facts concerning it.

This map shows at a glance that the heated waters of the tropics, pouring through the space between Cuba and Florida, flow in a northeasterly direction along the coast of Georgia and the Carolinas, diffusing themselves as they go, until from a compact stream less than fifty miles wide, they have become opposite Chesapeake Bay a broad expanse upwards of four hundred miles in width. This really includes numerous parallel or slightly diverging currents of very warm water with overflow currents of a somewhat lower temperature. One of these overflow currents approaches within sixty-five miles of Atlantic City, while it is one hundred and ten miles from Sandy Hook. The principal current is farther away, being one hundred and thirty-five miles from Atlantic City, one hundred and eighty-five miles from Sandy Hook, and about the same distance from Long Branch and Montauk Point.

But the exceptional mildness of this

climate may be attributed to the peculiar course of the Gulf Stream in this vicinity as much as to its proximity. The innermost current, according to the map received from the Coast Survey Office, has a direction opposite Atlantic City of east-northeast, but turns more and more to the eastward till in latitude 40°—that of Philadelphia—it bears nearly due east. The main current turns more abruptly, and a little north of latitude 38°, some distance to the southward of Atlantic City, has a course directly eastward. Our south, southeast, and east winds, then, must all pass for three hundred to five hundred miles at least over more or less heated water which has come directly from the Gulf of Mexico. Our only ocean breezes not affected in this way are those from the northeast, and experience shows that these are the only winds which are generally unpleasant here. But for places farther up the coast, particularly those north of latitude 40°, the case is different. Neither their northeast nor east winds can be appreciably modified by the Gulf Stream. Their south and southeast winds may be favorably influenced to some extent, but less than are the same winds at Atlantic City, since they pass over a much larger surface of cold water after crossing the Gulf Stream. It may be added that some small maps issued by the Signal Service Office represent the Gulf Stream as occupying different positions in winter and summer, but on this point Mr. Patterson writes, "I greatly doubt if there can be any material change of the stream from season to season; at least there has been no reliable evidence obtained on that subject."

To Sergeant E. W. McGann, who has charge of the United States Signal Station at Atlantic City, I am indebted for meteorological statistics and official records, from which the following information, bearing directly upon the subject of the climate of the place, has been condensed and tabulated:

TEMPERATURE, HUMIDITY, BAROMETRICAL PRESSURE, AND RAIN-FALL AT ATLANTIC CITY, NEW JERSEY.

Months, 1880.	Mean temperature.	Range of temperature.		Mean humidity.	Mean barometer.	Rain-fall, in inches.
		Max.	Min.			
January	41.1	64	13	79.3	30.189	1.70
February	38.2	71	11	74.4	30.129	2.85
March	40.1	72	18	71.9	30.061	5.97
Mean for three months..	39.8	.....		75.2	30.126	10.52

The mean temperature for January, February, March, and December, the four coldest months of the year, was, in 1879, 34.7°; in 1878, 36.8°; and in 1877, 35.9°.

The prevailing winds in winter are those from the west and northwest, which are usually dry and bracing. The east and south winds, which often blow for days at a time, are warmer and more humid. Northeast winds, which are unpleasant, usually prevail for two or three days at the time of the equinoctial storms, but are infrequent during the remainder of the year.

Observations taken at my office, in the centre of the town, at 7 A.M., 12 M., and 6 and 10 P.M., show that in December, 1879, there were twenty-six days during which the thermometer did not fall below 32°,—the freezing-point; also that there were only two days in the same month when the thermometer did not indicate at noon a temperature above 40°; and that there were ten days upon which it was not below 50° at the same hour. During the January following (1880) there were twenty-four days during which the mercury never fell below the freezing-point at any hour, and only two days during which it went below 30°. It was only once in the same month lower than 40° at noon, and only three times lower than 45° at the same hour. On nineteen of the thirty-one days the thermometer stood at 50° or above at mid-day.

These mid-day temperatures are obviously more important than averages, for it is in the daytime that invalids take their airing out of doors.

The dryness of this climate, as compared with other sea-side resorts, is best

shown by the statistics of the rain-fall, which is less here than at any other place on the coast, as appears from the table given below. The readings of the hygrometers at the different stations are not so significant, since at some of them, including Atlantic City, the instruments are located so near to the beach, and at so low an elevation above the sea-level (less than thirteen feet here), as to be affected by the spray, during strong winds, off the water, and by occasional morning mists, which do not extend back into the town.

ANNUAL AMOUNT OF RAIN-FALL AT THE PRINCIPAL CITIES AND STATIONS ON THE ATLANTIC COAST.

Stations.	Year ended June 30, 1879.	Year ended June 30, 1878.
Atlantic City, N.J.	40.60 inches.	42.90 inches.
Barnegat, N.J.	49.38 "	52.35 "
Boston, Mass.	62.96 "	54.50 "
Cape May, N.J.	42.44 "	47.99 "
Charleston, S.C.	64.33 "	68.62 "
Galveston, Texas	51.03 "	67.47 "
Jacksonville, Fla.	51.62 "	52.11 "
Newport, R.I.	52.20 "	55.84 "
New Orleans, La.	58.29 "	73.31 "
New York, N.Y.	43.68 "	42.68 "
Norfolk, Va.	44 44 "	66.28 "
Portland, Me.	41.10 "	45.61 "
Sandy Hook, N.J.	60.37 "	54.86 "
Savannah, Ga.	55.14 "	52.44 "
Wilmington, N.C.	50.90 "	84.12 "

The mean barometer for the year ended June 30, 1879, was higher at the Atlantic City station than at any other on the coast north of Chesapeake Bay, and, with one or two exceptions, the same may be said as to the preceding year. This is a matter of importance, since depressions of the barometer affect the majority of invalids far more decidedly and injuriously than low temperatures. An extra wrap out of doors or a fire in-doors will perfectly antidote any ordinary degree of cold, but it is far more difficult to render comfortable the invalid whose breathing is distressed or whose joints and nerves have been set to aching by a sudden fall in the atmospheric pressure. Barometrical changes are also connected intimately with variations in the electrical conditions of the atmosphere, and these again strongly impress the delicate nervous systems of the sick.

In the following table the figures represent the average atmospheric pressure for the years named *at the sea-level*, allowances having been made for differences in the elevation of the stations:

TABLE SHOWING MEAN BAROMETER AT VARIOUS STATIONS.

Stations.	Year ended June 30, 1879.	Year ended June 30, 1878.
Atlantic City	30.031	30.002
Barnegat	30.029	29.998
Boston	29.975	29.969
Cape May	30.029	30.007
Galveston	30.049	29.995
Jacksonville	30.079	30.030
Newport	29.993	29.980
New York	30.026	30.006
Portland, Me.	29.944	29.952
Sandy Hook	30.014	30.000

After all, however, it is with climates as with medicines,—trustworthy evidence as to what they have accomplished is the most valuable. With regard to nervous, rheumatic, gouty, dyspeptic, and various other chronic ailments (including most of those peculiar to women), which are usually found to be benefited here in the summer, equal benefit may be expected in the winter. Convalescents from acute disease, or from surgical operations, nearly always improve remarkably upon being removed to this place from the large cities.

As to diseases of the respiratory organs, I have had personal knowledge of many patients suffering from all the forms of such affections who have made trials of this climate in winter. The bronchial and laryngeal cases have, as a rule, improved, some of them very decidedly, though there have been exceptions. The consumptives who were in the third stage, or in any stage with evidences of actively progressing disease of the lung and decided hectic, have only exceptionally been benefited. Those, however, in the pretubercular or incipient stage, and those even in the advanced stages where the destructive process has been advancing slowly, have often experienced very marked improvement. In a considerable proportion, about one-fourth, of these latter classes of cases the disease has been apparently arrested, and some of them seem to be cured.

Detailed reports of the cases I have treated at Atlantic City would fully bear out the foregoing general conclusions, but would unduly extend this paper and necessitate the exclusion of several reports I have received from prominent Philadelphia physicians concerning the effect of this climate upon their patients in winter especially. Some of these physicians have been sending patients hither for more than

twenty years. Their testimony is more valuable than mine, and cannot be impugned on the ground of partiality.

It is a significant fact that pneumonia and bronchitis are of infrequent origin here, and when they do occur the patients *almost invariably recover*. Upon this point my experience as a resident physician enables me to speak very positively. I have not known an uncomplicated attack of either disease to prove fatal.

The reports from physicians above referred to were received in response to inquiries recently sent to them. Many others wrote brief apologies, not having the notes or the leisure to tabulate the results of their experience as I had requested. Only one physician objected to the climate either for bronchitis or early phthisis.

Dr. Laurence Turnbull writes, "The number of cases of phthisis that I have sent to Atlantic City have been few *in the last stages*, as I found they were not improved by a residence at the sea-shore, dry even as it is," adding that a few cases in those stages were aggravated, but goes on to say, "I have been much pleased with its influence on the first stages of phthisis, asthma, laryngitis, bronchitis, and nasal catarrh, when all ordinary means have failed in the city, by causing improvement in the appetite, assisting the digestion, and giving a healthier tone to the skin. In convalescence from catarrhal pneumonia and typhoid fever the results have been most gratifying. In certain forms of *otitis media purulenta* I do *not* find the air of Atlantic very beneficial, and in many cases diseases of the ear are caused by exposure of that organ to the waves. In strumous diseases of eyes, joints, limbs, etc., I have found the change to Atlantic City, if persisted in for several seasons, of permanent benefit."

Dr. Thomas J. Yarrow writes, "It has not been my practice, as a rule, to advise patients suffering with tuberculous and other diseases of the respiratory passages to sojourn at the sea-side. Exceptionally, I have had them go to Atlantic City, and have known cases of incipient phthisis, chronic bronchitis, asthma, and laryngitis to improve in that location. My experience of late is inducing me to recommend a larger number of such cases to reside at Atlantic City."

Dr. Thomas G. Morton thus bears testimony: "I have been in the habit of sending to the shore at Atlantic City many patients, more especially surgical cases, but a large number also of those with lung affections, and especially those having a (hereditary) tubercular disposition, and I think especially such cases have been vastly benefited by the sojourn."

Dr. James Darrach, of Germantown, writes, "Have sent several cases of autumnal catarrh to Atlantic City, and think without exception they were benefited, two of them being certainly exempt from these attacks while at the shore. The only case of slow convalescence from pneumonia died at Atlantic City. This was about twenty-three years ago. A case of obstinate general bronchitis was cured in about ten days. A case of what I supposed to be tubercular laryngitis was very much benefited, and subsequently recovered. I have also had other cases of obstinate catarrh which returned well after a sojourn at Atlantic City."

Dr. Eugene P. Bernardy reports as follows: "With but one exception, all my cases of phthisis, both in the early and late stages, amounting to twelve in all, have been decidedly benefited by a sojourn at Atlantic City, and one case positively cured,—that is, as far as human ear can ascertain. Of the three cases of convalescence from pneumonia all were decidedly benefited. In a child suffering from chronic pneumonia the lung in a few weeks was almost entirely cleared up. In bronchial affections (chronic) I have seen no permanent benefit in any of the six cases I have sent there: all benefited while at the sea-shore, but a few months after their return relapsed. The case of phthisis cured had been examined by myself and Dr. Hall in Philadelphia, and while at the sea-shore examined by Dr. L. Turnbull. We all diagnosed incipient phthisis. This was nearly six years ago. On her return she had gained forty pounds, and has remained well ever since."

Dr. John H. Packard says, referring to Atlantic City, "I can only say that I frequently advise convalescents to go there, and that it is a very common thing with me to be asked by patients whether it would not do them good to spend a week or two there. I do not now recollect any case that has been wholly without benefit from that climate, and could adduce many that have gained great advantage from it."

Dr. D. Murray Cheston writes, "I can-

not say how many cases of pulmonary or bronchial troubles I have sent there, but the general result has been most satisfactory. The cases were all sent in the late winter or early spring months, and have invariably returned improved."

Prof. J. M. Da Costa writes briefly, as follows: "I have sent too few patients with pulmonary disease to Atlantic City to have the data to answer your questions. Some who were in a run-down condition and affected with chronic bronchial catarrh did very well."

Dr. Ellwood Wilson writes that in the summer months he does not think patients with fully-developed phthisis improve by a protracted residence at Atlantic City, but adds, "During the winter months—say from October to July—I regard it as a very favorable locality for consumptive patients."

Dr. R. J. Levis writes that his practice (being almost exclusively surgical) "is not of a kind to furnish experience with regard to the beneficial influence of Atlantic City in pulmonary affections," but that he has "a good opinion of its dry and mild climate."

Dr. James J. Levick has not sent any cases of phthisis, but has sent "several cases of laryngeal and bronchial irritation and one or two cases of hay asthma, which improved greatly while at Atlantic City." He adds, "The cases which have derived most benefit, however, and of which I have sent not a few in the late winter months, have been patients after typhoid fever,—patients whose nervous systems have been much disturbed, persons who have needed brain rest, etc."

Dr. Wm. H. Bennett, resident physician at the Children's Sea-shore House and Seaside House for Invalid Women at Atlantic City, contributes the following full report: "My experience of the effects of a sojourn at Atlantic City upon those suffering from pulmonary diseases has been confined to what I have seen among transient visitors during the summer months of the past seven years. I have had little or no experience of the effects either of a prolonged stay or of a stay in winter. I cannot give you exact figures, but the following is a fair statement of what I have observed. My patients were, with the exception of a majority of those suffering from phthisis, nearly all children. I have had not less than a hundred cases of acute bronchitis, nearly all of which ran a milder and shorter course than similar cases do in Philadelphia. The majority of these cases had during treatment the best possible hygienic surroundings, but a few which were much exposed during cool, rainy weather in leaky, damp apartments seemed to do equally well. A few, perhaps ten, cases of subacute bronchitis which had remained stationary in the city for some time rapidly recovered at the sea-shore. Three or four cases of chronic bronchitis, with emphysema and occasional severe attacks of asthma, greatly improved; but about an equal number showed no change. Two or three cases of tardy convalescence from pneumonia made much more rapid progress towards recovery after their removal to the sea-shore. Two cases of empyema with external fistulæ greatly improved. About twenty cases of phthisis have been under my care at Atlantic City. These have been in all stages of the disease. A very few, I recall but three, derived no benefit; all the others improved in general health. In some, even of the advanced cases, the improvement was marked. In many of the cases the cough became less troublesome and the breathing less labored. Nearly all slept better. Hectic frequently disappeared entirely, or was greatly lessened. These cases, with two exceptions, remained too short a time to allow of any inference in regard to the effect of their stay upon the progress of the disease itself. One of these two exceptional cases remained three months. It was one of the few that did not improve at all, and the disease ran its usual course. The other spent most of the time during the last eighteen months of his life at Atlantic City, and his downward progress was undoubtedly much retarded by so doing. I am aware that the experience which I have thus detailed has been too meagre, except perhaps in the cases of acute bronchitis, to allow of any general conclusions. But, after comparing my own experience with that of others, I am convinced that the atmosphere of Atlantic City in summer (perhaps also in winter, but I do not know) will prove especially beneficial in the large majority of cases of diseases of the respiratory organs, and that the very common opinion that the seacoast is everywhere unsuitable for cases of phthisis has little foundation. So thoroughly am I convinced of this fact that I

am striving to have special provision made in the Sea-side House for Invalid Women for consumptives, and in doing so I am but following in a small way the example set by the establishment of the magnificent Royal National Hospital for Consumption on the sea-coast of the Isle of Wight."

The good accomplished by this climate I attribute not to any specific influence of the air upon the lungs, but to its tonic and alterative properties, acting by the improvement of digestion and nutrition, the promotion of sleep, etc. Atlantic City is the most accessible to the New England and Middle States of any place having claims as a winter-resort and admitting of outdoor exercise for most invalids the whole winter through.

TWO EXAMPLES OF PURPURA HÆMORRHAGICA FROM WIDELY DIFFERENT PRIMARY CAUSES.

BY WALTER C. STILLWELL, M.D.

CHAS. H., æt. 8, while playing in a stable-yard was incarcerated in a dung-pit by his playmates for about twenty minutes to half an hour, and a few hours after being liberated he was seized with a chill, followed by the appearance of red spots over the whole body, which gradually became of a purple color, and soon after he began to have hemorrhage from the nose, which was very profuse and lasted for some considerable time; he became exceedingly weak, his pulse grew feeble and very rapid, and for a time his condition was very alarming. On making an examination of his throat, I found the tonsils so much enlarged that they almost filled up the fauces; they were of a dark-purple color, and looked as if the blood was about to start from them. The other portion of the mucous membrane of the mouth and throat was very pale and unnatural in color.

Attention was first directed to stopping the hemorrhage, which was done after much difficulty; the various vegetable and mineral astringents were used without effect, and, as a last resort, I was compelled to plug the nostrils with cotton saturated with a strong solution of alum.

The tinct. ferri chlor. with potass. chlorat. in large doses was administered internally, in conjunction with strong milk-punch. This treatment was continued for about five days, when the sulphate of quinia was added to the other medicinal agents. A week or ten days passed before I considered him in a fit condition to leave.

The other case was that of a little girl, 9 years of age, who was a typhoid fever patient, the purpuric spots appearing about the tenth day of the attack, accompanied by a profuse bleeding from the nose, as in the other case, and after a day or two cerebral symptoms set in and the child died.

Here are two cases of purpura hæmorrhagica, with the extravasation of blood in or upon the true skin, appearing in spots over the whole body: both are caused by a depraved or poisoned state of the blood and the relaxed condition of the capillary vessels.

In the first case, the child inhaled the ammoniacal and other putrescent vapors from the refuse matters in the pit, and the inoculation or absorption of the poison was through the respiratory apparatus; but in the second case, the typhoid fever patient, it occurred through the medium of the bowels, the matters from the diseased glands of Peyer being absorbed into the blood.

INTERNAL ADMINISTRATION OF NITRITE OF AMYL AS A STIMULANT IN THE TYPHOID STATE.

BY JOHN M. KEATING, M.D.

I REPORT the following not because I deem the matter contained therein conclusively proven by the case narrated, but simply to encourage those who have the opportunity to investigate still further in what may become an important field in therapeutics.

My case was carefully and intelligently watched by the then resident physician, Dr. Philips, and the reports submitted are mainly taken from his notes at the time.

I. O., a colored man, aged 32 years, was admitted to the medical wards, Philadelphia Hospital, on Monday, March 4, 1878, at 11 A.M. He stated that he had been taken with a violent chill on Friday night, followed by fever and copious perspiration. On Saturday and Sunday he was chilly and unwell, had a dry, hard cough, a severe headache, and spat blood.

After his admission his condition was as follows. Respiration 66, very shallow; a severe, constant pain, increased in severity by the slightest effort, felt at base of left lung; this pain radiated to apex of same side. Hasty examination revealed marked dulness on side and back of left lung. At this point breathing was tubular, and at the margins, with deep inspiration, crepitant râles. At right apex there was dulness, prolonged expiration, which at the time was noted as a chronic trouble.

The base of the right lung was normal, though somewhat exaggerated, as probably most of the aeration was done by this lung. The temperature was 104°, and the pulse 110. He was ordered wet cups over left lung posteriorly, and dry cupping *ad libitum* over whole thorax. This was followed by a poultice. A moderate dose of opium with ten grains of quinia was given at once.

The case was recorded as one of acute pleuro-pneumonia in first stage, affecting the left lung in an anæmic adult negro, with consolidation of the apex of right lung that had not yet begun to break down. At three o'clock P.M., owing to the weak pulse and general evidences of great prostration, stimulants were indicated. The pains had somewhat abated, the sputa were free and were well tinged with blood. The temperature had gone up to 106°.

No form of stimulants, for some reason, could be obtained. It occurred to me to use *nitrite of amyl*, which I had heard had been used to prolong the "*stadium alcoholicum*" by some devotees.

Three drops of the nitrite were ordered in emulsion every three hours, and all other medication stopped.

At nine next morning the patient was reported as decidedly more comfortable. The temperature was still high, 105⅖°; the pulse had fallen to 96, was good, full, and regular; respirations were 50, easy, and deeper; the pain was not severe. He had taken four doses of the nitrite mixture.

I give below his temperature record for four days and nights, after which he continued to improve until he got entirely well of the pleuro-pneumonia and nothing remained but the consolidated right apex.

Up to 10 A.M. on the 6th, the third day after his admission, he had taken twelve doses of the nitrite of amyl, no alcoholic stimulants, and no other medicine of any kind.

March 5.—10 A.M., pulse 96, resp. 32, temp. 105⅖°; 2 P.M., temp. 104⅘°; 6 P.M., temp. 105½°; 6 P.M., temp. 104°; midnight, pulse 98, resp. 30, temp. 103⅖°.

March 6.—10 A.M., temp. 103°; 2 P.M., temp. 102⅖°; 9 P.M., pulse 90, resp. 42, temp. 102°; midnight, temp. 102⅕°.

On the 7th, the fourth day after admission, the temperature varied between 102° and 103°; the pulse went down to 88.

On the 8th the temperature did not go higher than 100⅗°, the pulse registered 84, and the respirations were 36.

For several days the nitrite of amyl was given three times daily, and occasional doses were administered until auscultation and percussion showed that air was freely entering the lung. In this case there was from the commencement a tendency towards the typhoid state, and the very rapid improvement which ensued from the treatment was attributed to the nitrite of amyl as the only drug given.

NOTES OF HOSPITAL PRACTICE.

LOUISVILLE HOSPITAL COLLEGE OF MEDICINE.

CLINICAL SERVICE OF DUDLEY S. REYNOLDS, M.D., PROFESSOR OF OPHTHALMOLOGY AND OTOLOGY IN THE HOSPITAL COLLEGE OF MEDICINE.

Reported by A. H. KELCH, M.D., Stenographer.

ON THE EYE.

(Continued from page 143.)

CASE V.—Mrs. K., aged 59 years, comes here with a tumor in the upper margin of the left brow. It is hard and at times painful. The skin covering it is glossy and tense. It is a steatoma or sarcoma, and I shall remove it. Making an elliptical section of the tense skin, we see a pulpy, semi-translucent mass of cellular substance, not unlike brain-substance. I think it is medullary cancer, of the encephaloid variety. It is developed by a peculiar retrograde metamorphosis of the cells composing the tissue in which the morbid growth is developed. What condition determines the retrograde metamorphosis of cells is something that has not yet been discovered. A cancer is primarily of local origin, affecting the system secondarily through the agency of the lymphatic glands, which become obstructed, and through the colliquative discharges from rapid suppuration. The neighboring glands here are already infiltrated with cancer-cells, no doubt. That being the case, we cannot, of course, hope to eradicate this affection from the system by the operation I have just performed. I believe in Henry Arnott's theory of the local origin of cancer. The popular opinion is that cancer is a kind of parasitic growth, and it is inferred, from its common name, that it is a kind of crab. It has long since been determined that the microscope does not reveal any special kind of cell as characterizing a growth of what is termed cancer. There is no specific cancer-cell, but we recognize a tumor as cancerous in which embryonic cells predominate. Then the nature of a cancer is this, that the cells which form the normal tissue, instead of going on in the process of development, assume the form of the cell in embryonic life, and these go on accumulating by proliferation or aggregation in the part until they become the predominating cell. If these cells are round, we call the tumor in which they are

found round-celled cancer; if they are very large, we call it a giant-celled cancer; and if star-shaped, stellate, which is the form, generally speaking, peculiar to melanotic cancer, black cancer, more frequently observed in the liver and lung. There are some forms characterized by filiform cells, and you are to understand that in any tissue of the body where the embryonic cell is formed, it means cancer, and the shape of the cell will depend much upon the tissue in which it is found.

Its essential pathology consists in a retrograde process of the cell-change, which finally undergoes fatty degeneration, and in other instances the cells simply break down into granular matter, and the fluid portion infiltrates the contiguous structure. From what I have said about the local origin of cancer you can understand how it happens that recovery sometimes occurs from enucleation. In Gross's "Surgery" is detailed a case which recovered from encephaloid after the twenty-third operation; and other instances of recovery are not wanting.

Case VI.—Mr. George T. M., of White Mills, Hardin county, Kentucky. This man is thoroughly saturated with malaria; he has a poor appetite, bowels constipated, headache, and general malaise. In the left eye he has suppurative keratitis accompanied by powerful contraction of the orbicularis palpebrarum. The corneal epithelium is shaved off the upper half, and in the inferior and outer quadrant of the cornea is a mass of suppurative matter.

He has been treated by Dr. Ashlock, who gave him atropia and morphia as a local application, and iron, quinine, and iodide of potassium constitutionally. He is now evidently better, as there are unmistakable signs of resolution of the inflamed cornea, and the breach of continuity is beginning to be repaired, as is shown by the smooth-bevelled edges of the ulcer.

This is a typical case of suppurative keratitis, nearly always due to malarial poisoning,—at least, as it is observed in this part of the country; and these are the cases which afford the most striking illustration of the therapeutic value of calomel. Whilst quinine is necessary, calomel is likewise essential. I have never yet seen a man suffer from suppurative inflammation of the cornea without a disposition to constipation, general malaise, loss of appetite, scanty urine, and other evidences of the constitutional effects of malaria.

After releasing the eye from pressure and friction of the lid by a canthoplasty, I expect to see him recover promptly under the use of calomel and quinine constitutionally, and a continuation of the morphia and atropia locally. Having forced the cornea from the injurious friction of the upper lid, whose lining membrane is somewhat roughened by long-continued inflammation of the cornea, and by its passage over the roughened ocular conjunctiva, which is never absent in cases of suppuration or other forms of keratitis, and particularly in those cases where the iris is also involved, recovery will be rapidly completed.

This disease, no doubt, began in the iris, and with the development of the serous form of iritis there is a proliferation of connective-tissue cells in the posterior elastic layer of the cornea, or upon its surface, thus propagating the disease to the proper substance of the cornea, causing what is commonly called suppurative keratitis, which begins in fact by the effusion of plastic material in the proper substance of the cornea, subsequently breaking down all the affected tissue, leading generally to perforation.

To the treatment employed by Dr. Ashlock, Mr. M. is indebted for his good fortune in escaping that calamity. Under the use now of calomel and quinine for four or five days, until the more violent symptoms of inflammation have subsided, followed by the iodide of potassium or syrup of the iodide of iron, I confidently expect this man to regain his strength and health and have a restoration of the sight of his eye. The amount of the tissue destroyed, the actual destruction of the proper substance of the cornea, will mark the extent of the remaining opacity, which in this case is likely to be so small and so far removed from the vertex of the cornea as to place it out of the line of vision and therefore occasion but little obstruction to sight. The canthoplastic operation which I have just performed gives him immediate relief from the sense of friction, which was a source of great suffering to him before. The stitches introduced are to be removed in twenty-four hours, and in the mean time he is to keep his eyes

constantly bathed in cold water. He goes to St. Joseph's Infirmary, with instructions to remain in-doors until further orders.

Case VII.—Mrs. D., of Lebanon, is now 50 years of age, which is above that at which the accommodative power presents any difficulty to the process of testing the refraction. The decline in the accommodative power occurs simultaneously with that of the body in general, and constitutes the earliest sign of senility. She comes to get glasses. But, upon examination with the ophthalmoscope, I find an unsuspected and very interesting condition. She has retinitis pigmentosa, an inflammation of the retina which is always characteristic of constitutional specific disease. She has had a perforating ulcer in the left cornea, and retinitis has existed a long time in the right eye. The disease is probably syphilitic. Galezowski says that the bichloride of mercury given to the production of its constitutional effects constitutes the only successful form of treatment in retinitis pigmentosa; he does not think much of the biniodide of mercury, or of the protiodide, or in fact of any other than the corrosive chloride. He uses the corrosive sublimate in the dose of one-twenty-fourth grain, which, if it act too severely upon the bowels, is controlled by paregoric.

I mention him as authority because I like his papers on retinitis pigmentosa. I believe if there is anything like a specific treatment in this disease, if there is any improvement to be obtained, if there is any power to arrest the disease, that power is found in the bichloride of mercury. Small doses systematically and regularly administered until the gums become tender, followed by the ordinary doses of iodide of potassium, four or five grains, gradually increased for three or four days, until iodism is produced, will yield the best results. These will, of course, be assisted by out-door exercise, salt-water baths, and everything that will tend to keep up a strong and vigorous action of the whole system, and facilitate excretion by the skin, bowels, and kidneys. This patient is now fifty years old; there is no telling how long she has had this trouble. It may have been acquired, although Mr. Hutchinson and Galezowski have expressed the opinion that this is one of the manifestations of inherited disease. They may be correct.

HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA.

CLINICAL SERVICE OF PROF. ASHHURST.

Reported by JOHN M. TAYLOR, M.D.

CASE OF CYSTITIS WITH ENLARGED PROSTATE AND RECTO-VESICAL FISTULA, TREATED BY SIR HENRY THOMPSON'S METHOD OF INTRODUCING A TUBE INTO THE BLADDER THROUGH AN OPENING ABOVE THE PUBIS.

THIS patient, a man somewhat advanced in years, had been in the hospital several months, suffering from inflammation of the bladder and very great enlargement of the prostate. There was no retention of urine, with vesical distention and secondary overflow, such as is so often met with in cases of prostatic hypertrophy; but, on the contrary, the bladder was very much contracted, the patient micturating on an average once in every half-hour or hour with intense pain, and the catheter not bringing away more than a fluidounce of very offensive and dark-colored urine. The patient himself declared that there was an opening between the bowel and the bladder, and that he had on one occasion passed several grape-seeds *per urethram;* but, as there was no escape of urine from the rectum, and no appearance of fæcal matter in his water, this was supposed to be a mistake, though, as it was afterwards found, such an opening actually existed.

Apart from the fact that there was no urinary retention to require the use of the catheter, the employment of this instrument caused increased pain, and hence was not persisted in, and as internal remedies (including ergot and the chlorate of potassium) had utterly failed to give relief, the case was thought to be one in which it would be justifiable to adopt Sir Henry Thompson's suggestion of establishing a direct communication with the bladder above the pubis, an operation which finds its analogies in colotomy for rectal stricture, and in tracheotomy for occlusion of the larynx. This operation has been practised in five cases by Sir Henry himself, with decided, though only temporary, benefit in each instance; and a similar procedure has been employed by Dittel, of Vienna, and by Prof. Keyes, of New York, but, so far as is known, has not been heretofore attempted in Philadelphia.

The patient, having eagerly assented to the suggestion of any operation which might offer even a hope of relief, was etherized and brought before the clinical class of the University on Saturday, November

20, 1880. About three fluidounces of tepid water having been carefully injected into the bladder, the long styleted tube, made by Mr. Gemrig exactly according to Sir Henry Thompson's description, was introduced through the urethra, and made to push up the anterior wall of the bladder, immediately above the pubis. The instrument being then confided to an assistant, Dr. Ashhurst made a longitudinal incision about half an inch in length, exactly in the median line of the abdomen, cutting down cautiously upon the bulbous end of the stylet, which, followed by the tube, was thus made to project through the wound. The stylet being next withdrawn, a tube shaped like a tracheal canula, and two and a quarter inches long, just large enough to fit inside of the large urethral tube, was introduced its whole length into the projecting end of the latter, and, as this was slowly withdrawn, was thus carried into the bladder, its safe lodgment in the viscus being announced by a free gush of urine mingled with the water which had been previously injected. The tube was then secured in place by means of tapes passing around the hips and thighs, and the patient returned to his bed.

The only point in which the operation differed from Sir Henry Thompson's was in the use of a metallic instead of a flexible vesical tube. This modification was decided upon, Dr. Ashhurst said, because he could not obtain any flexible tube which would be sufficiently permanent to be of value, and because the greater facility in cleansing and reintroducing the metallic tube would, he thought, compensate for any risk of its producing undue irritation. To guard against the latter contingency, the tube was made with a movable plate, after the manner of a tracheal canula.

When the patient was visited in the ward, about an hour after the operation, it was found that fæcal matter was mixed with the urine which flowed through the vesical tube, thus showing that the patient's suspicion that there was an abnormal communication between the bladder and gut had been well founded. The operation has been followed by no constitutional disturbance whatever, and there has been measurable relief from pain, so that it may be considered to have accomplished what was expected from it. It is hoped that when the patient shall have learned to manage the tube for himself, he will be placed in a condition of comparative comfort. The enormous size of the prostate must prevent any attempt to relieve the recto-vesical fistula by operative measures, and, indeed, all the circumstances of the case are such as to forbid any expectation of effecting a radical cure.

TRANSLATIONS.

Symptomatology of Tumors of the Mediastinum.—In an elaborate article on this subject, illustrated by several clinical histories of rare cases, Dr. A. Schreiber (*Deutsches Archiv für Klinische Medicin*, Bd. xxvii., 1880, p. 52) gives numerous points in symptomatology which are of considerable importance. Hertz, he reminds us, has said that the appearances presented by new formations of the mediastinum are entirely dependent upon their size, the rapidity with which they develop, their locality, and the pressure which they exert upon the important organs of the thoracic cavity, heart, lungs, trachea, and bronchi, the œsophagus, and particularly upon the larger vessels and certain portions of the nervous system. Small, soft tumors, adds Schreiber, hardly ever give rise to pathological symptoms; the latter do not appear until the tumors have reached a certain size. One of the earliest complaints, difficulty of respiration, at first observed only after unusual exertion, later constant, and sometimes going on to dyspnœa or even orthopnœa, and possibly terminating in suffocation, is found to be due to compression of the trachea and bronchi, or rather of the recurrent vagus. This may give rise to a feeling of compression at a particular point in the neck. At the same time pain in the sternum, usually dull, but sometimes sharp and burning, and which may radiate into the neck and arm, is felt. The disturbances of the general condition which may occur are various. Sleeplessness, usually dependent upon the difficulty of respiration, is one. Pleuritic effusion may prevent the patient from lying on the affected side or even lying in bed at all, as in the case of a patient of Fuller's, who was obliged to sleep kneeling, with his head on his hands, in a bed made especially for the purpose.

The temperature, which is sometimes increased, shows no typical range, and is

probably dependent on some intercurrent disorder; it is not characteristic of the tumors. Loss of appetite and nutrition is at times noticed, probably as a result of the general condition; it is worse if associated with difficulty of swallowing. Attacks of syncope, dizziness, muscæ volitantes, etc., are due to unusual circulatory disturbance, and are not met with in most cases. Dry, irritating cough, with mucous or muco-purulent expectoration, occasionally mixed with blood, is among the most annoying symptom of mediastinal tumor. It is due to compression of the recurrent nerve, which also may give rise to weakness of voice through relaxation of the vocal cords, and occasionally œdema of the glottis. Compression of the vagus sometimes causes difficulty in swallowing, hiccough, and vomiting. Occasionally these symptoms may be caused by direct compression of the œsophagus by the tumor. In a case reported by Todd this alone caused death.

With regard to external symptoms, the grayish-yellow complexion of the patient is characteristic. More important is the not infrequent occurrence of cyanosis. The pupils are sometimes asymmetrical or otherwise changed. Rossbach gives a case where pressure upon the middle part of the right supraclavicular region invariably caused sudden dilatation of the pupils. Coolness of the extremities is often noticed, and œdema sometimes occurs. Strumous swellings are sometimes observed.

The respiratory sound is most weakened over the seat of the tumors, as are also the heart-sounds. The pulse is usually small and frequent (100–136 in some cases). Enlargements of the glands are frequently observed.

The skin shows increased sweating, sudamina, etc. The mamma of the affected side may be enlarged, usually being pushed out by the tumor, but venous obstruction may also give rise to such enlargement. Disturbances of sensation, as formication, etc., neuralgia, and paralysis, all due to pressure of the tumor on nerves, are rarer symptoms.

Differential Diagnosis of Tumors of the Mediastinum.—Schreiber (*Deutsches Archiv f. Klin. Med.* Bd. xxvii. p. 66), in a paper on tumors of the mediastinum, a portion of which we have given above, says that these are to be distinguished from pericardial effusions, pleuritic exudations, aneurisms, partial infiltrations of the parenchyma of the lung, mediastinitis, and mediastinal abscesses. With reference to pericardial effusions, of course only chronic cases are to be considered. The usual fever accompanying these and also the area of dulness on percussion will serve to distinguish these as well as their clearly-defined limits. Articular rheumatism, Bright's disease, pyæmia, etc., are usually concomitant with pericardial effusion; the apex-beat of the heart is muffled, and a rubbing sound is heard. None of these phenomena occur in mediastinal tumors. The diagnosis is often extremely difficult, however. With reference to the differential diagnosis between mediastinal tumors and aortic aneurism, this refers only to cases where the aneurism is of considerable size and presses against the anterior wall of the thorax,—cases in which there is dulness under the sternum. Here the rarely perceptible resistance of the area of dulness when percussion is made, the visible or palpable pulsation, the usually systolic murmur, the retardation of the pulse in the peripheral arteries, serve to aid the diagnosis under ordinary circumstances. Now and then, however, unusual combinations of lesions may occur which cause great difficulties in diagnosis. Such are the effects of compression on the œsophagus, the larger veins, the recurrent nerve, etc. Also in cases where a firm tumor lies farther back and presses the aorta forward, giving rise to phenomena of pulsation. In one case cited by Schreiber it was impossible for two years, during which the patient was under observation, to find out whether or not an aortic aneurism was present. Pleuritic exudation can usually be distinguished without great difficulty; in case of doubt some fluid may be withdrawn by aspiration. Now and then the two conditions exist together, which adds greatly to the difficulties of diagnosis. Infiltration of the borders of the lungs is very rare, and may be distinguished from mediastinal tumor by careful percussion. Mediastinitis is usually accompanied by fever, etc., and the dulness on percussion is not often so decided.

Although, as has been shown, careful investigation will usually lead to a correct diagnosis of tumors of the mediastinum when uncomplicated, yet when these occur in connection with other troubles it is

almost impossible at times to arrive at a satisfactory conclusion.

PREVENTION OF MERCURIAL STOMATITIS.—Dr. Jules Simon recommends the following preparation to prevent the development of mercurial stomatitis in a course of antisyphilitic treatment:

℞ "Eau de Botot" (artificial), f℥vj;
Tinct. cochleariæ, f℥iiss;
Tinct. cinchonæ, f℥ii;
Tinct. catechu, f℥i;
Tinct. benzoin., f℥ss.—M.

A small quantity is mixed with water and used as a gargle morning and evening and after meals.

TREATMENT OF INFANTILE SYPHILIS.—Dr. Jules Simon, in a lecture published recently in *Le Progrès Médical*, recommends the following course to be pursued. Inunctions with *ung. hydrarg.* to be made every night and morning, alternately, in the armpits, the groins, and the popliteal spaces. Five drops of Van Swieten's liquor to be taken four times a day gradually, augmenting the dose until twenty drops are taken at a time. A wooden or porcelain spoon should be used. This treatment should be continued a long time,—months at least. The medication should not be suspended during the first period, but the dose may be increased or diminished, depending on the progress the patient is making. We must feel our way. When, for instance, the skin of the patient's face regains its transparency, the nose is open, the anal region is smooth, when sleep is natural and calm, the dose of medicine may be reduced drop by drop. At the least sign of return of the skin manifestations the dose of Van Swieten is to be increased. The cutaneous frictions should be managed in the same way, being reduced in number and extent, but never wholly suspended, during the first five months. At the end of four or five months the concomitant internal administration of iodide of potassium is begun. *Syrop Gibert* is the best form to give this: a quarter to a half dessertspoonful may be given daily, much diluted in water and divided into four or five doses. The dose is to be increased or diminished from time to time according to the effect produced upon the lesions. When the infant appears to be restored to perfect health, the medicine may be slowly reduced in quantity and finally stopped, a careful watch being kept against the recurrence of any symptoms. Dr. Simon does not favor the use of mercurial baths. He thinks that either they are too short and only act locally, or they are too prolonged and tend to enfeeble the child. Besides, there is constant danger of catching cold, to the action of which infants are extremely susceptible. As a lotion, particularly where there are lesions about the anus and buttocks, the sublimate solutions are valuable. Syphilitic infants should be kept in a warm atmosphere and should not be taken out in cold weather. It is hardly necessary to say that the mother alone should nurse her child. Failing this, cow's milk may be employed, although with much less success. By hard work, continues M. Simon, you may succeed in snatching the unfortunate infant from the jaws of death. Do not, however, rest in a false security when it appears cured; guard carefully against relapses. Tell the parents to submit the infant frequently to the inspection of the physician, and then, if the least spot or blemish appear, indicating a tendency to return of the trouble, begin treatment once more. Even quite large children must be watched thus, and must occasionally be placed upon a new course of mixed treatment.

REFLEX SYMPTOMS IN PATIENTS OPERATED UPON FOR EMPYEMA.—At a recent meeting of the Société de Biologie (*Le Progrès Méd.*, 1880, p. 846) Dr. Dumontpallier reported the case of two patients operated upon for empyema where certain accidents had taken place some weeks after the operation, when the cure seemed almost complete. In one case, that of a woman, Dr. Dumontpallier injected some tincture of iodine by the opening into the thorax. Scarcely had a few drops penetrated the thorax when the patient suddenly fell into a condition of syncope and remained several minutes without breathing, being brought to with difficulty afterwards. Up to that day the patient had supported the injections perfectly well. The second patient, a man of forty, had been operated upon eighty days previously. The adhesions had been so considerable as to leave only a small cavity containing only a little liquid. At the moment when a little carbolized water was being slowly injected into this cavity, the patient was suddenly seized with general contraction of the muscles on the opposite side of the body. This lasted some minutes, and was followed by incomplete paralysis.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, DECEMBER 18, 1880.

EDITORIAL.

THE UNIVERSITY OF PENNSYLVANIA.

AMONG our miscellany is a paragraph which was penned by one of the trustees of the University of Pennsylvania, and which may therefore be looked upon as a semi-official statement of changes about to be perfected in the organic methods of that ancient and venerable corporation. The old proverb about the foul qualities of a certain bird which does a certain act is, perhaps, a useful although a much abused one; and yet, if it had not been for the public showing of how soiled the family linen was, made some years ago in the pages of *Lippincott's Magazine* and of this journal, it is very possible that the medical department of the University would not now be what it is. The action of the Board of Trustees shows that they recognize the need of changes in the method of management of the University; but, as these changes have not yet been more than fairly entered upon, perhaps it may be well to call the attention of the University authorities, and of the interested public, to certain undeniable facts.

It seems to us very important that it should be generally recognized that the career of the University has been a most lamentable one, one disgraceful in the extreme, either to the community in which it is placed or to those who had charge of it, or else a failure, because of the bad methods upon which its life has been founded and nurtured. The institution is over one hundred years old; it was cradled during the infancy of the great city which envelops it,—a city whose fame is in all the earth. For decades it was the only higher institution of learning not only in this city of Philadelphia, but also in the State of Pennsylvania. Has it grown with the city? Has it dominated the life of the citizens? As the millions of property multiplied about our streets by the hundredfold, have its coffers been filled? What are the area, population, and wealth of Boston to those of Philadelphia? Omitting the medical department, the growth of which has not been due to the University, what is the University of Pennsylvania, in its influence, to Harvard? It may be said that Harvard has grown because Boston is more cultured. Nay, verily. Boston is more cultured because Harvard has permeated it with its influence. The strong liquor is not strong because the spirit has made the leaven, but because the leaven has made the spirit, though the leaven may increase in the process.

Whilst charities multiplied,—whilst millions were found for orphan asylums,—whilst refuges for the deaf, blind, halt, lame, institutions of every character, grew apace,—for nearly three-quarters of a century practically if not absolutely nothing was donated to enrich the University: so at least it is affirmed.

It is essential that we perceive the weakness, the impotence, in order that we should be able to search out the cause. During the last two decades there has been no lack of energy, of devotion, or of business talent in the Board of Trustees; of their own substance they have given bountifully; they have dared much; they have accomplished much; and whilst they have demonstrated the comparative feebleness of the hold which the institution has upon the community,—the legacy left them by a long line of feeble (to use no stronger word) predecessors,—and have accumulated much of debt, they have made the University a centre which Philadelphia can begin to be proud of; they have laid a foundation upon which to appeal to all friends of education, all patriotic Philadelphians.

We have, perhaps, occupied too much space in stating these facts, but our readers were scholars before they were doctors; and the present seems full of hope, because the recent action of the Board of Trustees is evidence that they perceive the difficulties of the situation, and have the self-abnegation to lay aside power.

The reasons of the lamentable failure of our University seem to us to have their roots, first, in the methods of its government; second, in the method of the appointment of the trustees. The theory of the government of the institution has practically been that each department was managed by its own faculty, superintended by a committee of the Board of Trustees, whose chairman was the more or less indifferent autocrat of the department. Of course, this resulted in the University being not a homogeneous educational community, but a collection of educational villages, between which there might be concord, indifference, or jealousy, the truth being that at the present time many, possibly the majority, of the University professors do not know one another by sight. The recent action of the Board of Trustees ends this. At last this nondescript collection—of which we have been at once so proud and so humble—is to have a real head; and we may hope soon to see all the faculties working together with that *esprit de corps* which comes of union and recognized brotherhood. This is well,—a step in advance so great that it leads us to hope that more will follow.

The second cause of the failure of the University—one not yet remedied, one which has to our thinking been the veritable *fons et origo mali*—is the method of the appointment of the trustees.

They are a self-elective body, responsible to no one, reporting to no one, filling their own vacancies by their own wills. Yet a university must grow, if it grow at all, by the efforts of its alumni; it is chiefly their sons and their friends who are to fill its halls; it is chiefly they who are to give renown to and extend the influence of the alma mater. Is it the faculties of Harvard or is it the roll of its famous alumni that gives most brilliance to its lustre?

If alumni are to keep alive their interest, to give their money, their influence, and their time to an institution, they must have some control and some representation in the governing board of the institution. The simplest, and therefore it would seem at first sight the best, plan, is to have a *portion* of the Board of Trustees elected by the alumni. In the long succession of years we believe that this would keep the *personnel* of the board uniformly higher than the present plan. Too much praise cannot be awarded to the present governing body, but the history of the University shows the danger, under the present methods, of the formation of cliques and lines of undue influence. It is not this, however, that we desire most to guard against. Our complaint is that at present the best Board of Trustees represent—whom?—themselves, that is all.

More spiritless, and we had almost said more useless, assemblies we have never attended than the annual meetings of the alumni societies; but if it were known that reports were to be read by representatives from the Board of Trustees, and that elections were to take place for such representatives, that general plans of policy, as well as details of execution, were to be discussed, that representatives were to be instructed when questions of sufficient magnitude arose, it would be like opening wells of water in the Sahara: the deadness of the desert would be swallowed up in the fertility, the teeming life, of the oasis.

The charter of the University may require the appointment of the trustees as at present; but the life of the institution is more than the charter. If necessary, let the latter be amended. At the same time, we do not assert that the adoption of the

exact change here approved of is essential; it may be even that, under the present complicated circumstances, it is not the best way of accomplishing its object,—namely, the giving of direct representation to the alumni in the government of the institution.

Alumni of the University, if you love your old alma mater and wish its prosperity, now is the time to meet, to discuss and to express in unmistakable terms what is needed.

It is no secret that Dr. William Pepper has been nominated for the position of trust just created by the Board of Trustees of the University. Without wasting words, we may state our belief that in the existing circumstances the best man that the board could have chosen has been selected. The duties of the position as now arranged are such that they can be fulfilled without the sacrifice of much time, and Dr. Pepper does not expect in any way to relax his efforts either as a member of the medical faculty of the University or as a practitioner of medicine.

POTENTIZATION.

PERHAPS the human intellect never conceived an idea sublimer in its absurdity than the homœopathic doctrine of potentization, which may be expressed briefly as the theory that teaches that the differentials of inert substances like chalk are prime forces in the universe. (Our readers will remember, no doubt, from their boyhood studies, that the differential of a vanishing number is that quantity which it is when vanishing, *i.e.*, when it is no longer anything, and yet is not possessed of the proprietary rights and privileges of nothing.)

Some years since, a medical student was complaining to us that his family tormented him by constant efforts to make him leave the University for the Hahnemann College. On asking how it was that under the circumstances he had not studied homœopathy, he replied that he had intended so to do, but one day their family doctor took a small vial out of his pocket and said, "Look at this, John: it is my most precious possession. Twenty-five years ago I put a fraction of a grain of chalk in it, and filled up with sugar of milk. Day after day ever since I have used out of this bottle, replacing the contents as they waste with pure sugar of milk, and now I have a most powerful energy for good confined there." The man was sincere, but his imbecile enthusiasm was too great a dose for the gulping power of the boy. He could not believe that the miracle of the widow's cruse of oil should receive in these modern times infinite repetition.

In the *Homœopathic United States Medical Investigator* for October 1 a contributor, with Hollandish stolidity, relates the following

"*REMARKABLE EXPERIENCES OF AN ACONITE BOTTLE.*

"Over thirty years since I got a little aconite leaf at a drug-store. The druggist cut off a little slip not one-half as much as your little finger. I asked him how much for it? He says you are welcome to that little. I put it in a vial holding about two ounces, and filled it with half alcohol and half water. This preparation I used on every occasion of sickness of horses and cattle owned by myself, and many of my neighbors, for about fifteen years. Every creature which took the medicine got well. From five to ten drops at a dose was all that was used, and then not more than three to five doses. Some animals had other medicines after it, but all got well. The vial would get dry by evaporation, or used out, and all that we done was to put in alcohol or water. I gave the vial to a son-in-law of mine, after using it myself fifteen years, having first cured for him a horse sick and down with the colic with it. He has at times had charge of twenty and thirty horses, and when anything was the matter the little aconite bottle came out as the first thing, and generally the only thing. He of late sold out his horses and gave the bottle to the men he sold to, and they use it just the same. No medicine has been added in thirty years, but often filled with alcohol and water. Not one horse died in sickness if he took out of the little bottle. I think the little bottle good for thirty years more if kept filled, and will do just as well as ever. This may appear strange, but it is true. More are killed with medicine than cured."

The theory of potentization and the structure built upon it seem, however, destined to death; and the unkindest

blow has come from a homœopathic medical society. Well may some of our struggling brethren exclaim, *Et tu, Brute!*

The Milwaukee Academy of Medicine (homœopathic) distributed to believers of high potentization carefully-prepared vials of medicine. Each individual received ten vials, nine containing only pellets of milk-sugar, and one having in it globules of a high potency of aconite. The endeavor was to distinguish the medicated sugar by its effects on the human system. Twenty-five believers, residents of twelve different States, sent for and received the vials. Concerning these, the final report, as adopted by the Academy, reads thus:

"Number of tests applied for and sent out, 25.
"Number of tests on which reports have been received, 9.
"Number of tests in which the medicated vial was found, 0."

From which it appears that sixteen of those who undertook the task did not venture on any report, whilst not one of the nine who did report indicated the right vial.

The test and its results have called forth no rebutting evidence of value, only considerable abuse of Dr. Potter, president of the Academy, which is evidence of its truthfulness and value.

CORRESPONDENCE.

LONDON LETTER.

THE medical world of London is very quiet at present, and the schools are settling down into their stride for the serious work of the winter session. The improvement in the entry at the London Hospital is marked. Situated at the East End of London, even its able staff failed to attract to it students in proportion to its teaching power. But railway facilities at last brought it within ready reach of the rest of the world; and this, combined with a little extra energy on the part of the governing powers, has begun to tell upon the entry. At Guy's the entry was much larger than was anticipated by the profession in the face of the present imbroglio. Clouds are suspected to be gathering for the London Hospital, as the new matron there just appointed is the lady who recently worsted Dr. Humphry at the Pendlebury Hospital, near Manchester. The profession is beginning to realize that there is a "screw loose somewhere" in its social position, when the appointment of a matron is regarded as the herald of approaching trouble and probable disaster. However, as people make their bed, so must they lie; and the medical profession is finding out that it is no exception to this law. The profession has not always and invariably with true loyalty to itself put the best man into the vacant post,—a principle which ought to be as conservative as chastity in a woman; and now clouds of gathering storm are to be seen in the distance to supplement the rows which have already taken place. But, be that as it may, the real merits of the profession are too solid for its errors to dim its reputation permanently.

The subject of typhoid fever is being discussed at present from various stand-points. We are all under the impression that typhoid fever is exclusively, or nearly so, communicated from one person to another by means of the stools of the affected person. That fact has been vividly, indeed painfully, demonstrated by various outbreaks, as, for instance, a recent one at Caterham, where an extensive outbreak was clearly traced to the stools of one workman affected with ambulatory typhoid, portions of which found their way into the water-supply of an extensive area, the result being a wide-spread outbreak of typhoid. All who have had experience of country practice know too well how a single case of typhoid, acquired at a distance, comes into a hamlet and is followed by the appearance of several cases in the neighborhood. Here the conclusion is inevitable that the sick person brought the fever-poison, and that from lack of knowledge, perhaps, rather than culpable negligence, the stools, or part of them, are allowed to reach the water-supply and contaminate it. Typhoid fever develops in an endemic form. Now, granting all this as indisputably proved, and as forming the basis of our knowledge of enteric fever, and realizing how such knowledge can be made practically useful in the prevention of its spread, still there are some other matters which must not be lost sight of. Foremost among these is this. If this view of the propagation of enteric fever is allowed to dominate the mind too completely, then there is a corresponding danger of our being forgetful, or practically so, of the other ways by which typhoid fever may be originated. Especially is this danger rendered probable by the prominence recently given to the accepted doctrine as to the etiology of enteric fever, by the attacks on an extensive scale which have occurred in connection with the milk-supply in various localities; and not only in typhoid fever, but in other specific fevers, notably scarlatina. But the other aspects of the production of typhoid fever must not be entirely overlooked.

In a recent letter I pointed out how outbreaks in Germany had been traced to eating meat which was not fit for human consumption, to put it broadly. Now some further evidence is furnished by a thoughtful article contributed by the pen of Dr. R. Bruce Low, the medical officer of health for a rural district in Yorkshire, as to the occasional origin of typhoid. He resides among a primitive people little addicted to migration, and firmly rooted, comparatively isolated; where there are no sewers and no sewer-gas, no water-mains with interrupted or contaminated supplies, but free supplies of pure water from springs issuing from limestone rock. There are there no surface-wells, tanks, or cisterns, —at least in the houses which furnished the fever cases. There was therefore no case originating in the drinking of water contaminated by specific discharges. The district is such as is familiar to the readers of Emily Brontë's "Wuthering Heights," and is far removed from any practical risk of typhoid infection, unless some case of the disease comes accidentally into it,—a matter which would soon be notorious.

One case given is that of well-marked enteric fever developed synchronously in a farmer's daughter and a shepherd residing in a cottage of his own, who alike ate some bacon which was "black and had a queer smell." It is surmised that the bacon was part of a pig which had been the subject of typhoid fever when slaughtered on your side of the Atlantic. This is a matter of considerable interest for the shippers of bacon cured in the Northwest States. In another case the cause of infection is carefully traced to a hide with putrid flesh attached to it, in a farmer who "never got over that smell." More generally interesting is the account he gives of a group of cases where no specific contagion could be traced, but where other factors were in action. In this district the cloacal arrangements are very primitive, and the chief method among the men is voiding their motions in the open air behind a fence, while the domestic arrangement is a privy with a large pit, which usually is rarely, if ever, emptied, and is full of fæces to the level of the seat. Here are motions years and years old; whether breeding infection in the course of time or not is a moot point not yet decided. In corroboration of the view that typhoid-fever germs may be in time developed from successive crops of bacteria, growing in infective power in each generation, he refers to the experiments of Burdon-Sanderson, "that it is possible to proceed from an inflammation of purely non-infective origin to the artificial induction of a process of the most intense virulence." He goes on to infer from this, "The gradual evolution of a contagion is, therefore, a demonstrated fact in science;" and from this we might argue that diarrhœal discharges received into a foul garden-privy in the first instance cause further and severer attacks of diarrhœa, the contagion after each attack becoming increasingly virulent, till the summit is reached, and typhoid fever, a specific contagious disease, is produced. In corroboration of this view he gives an example of a double cottage, which was occupied by ten persons (two families). The privies, some twenty yards to the rear, had, in consequence of a dispute, not been emptied for more than twelve months. First violent sickness and diarrhœa, with some bloody motions, showed themselves. There was some fever for several days, followed by rapid recovery. The attack was nearly fatal in three cases out of the seven attacked. Some visitors who remained in the rooms when the sick persons' bowels moved were seized with similar symptoms. So soon as the privies were cleaned out by the sanitary authorities the outbreak ceased. Three persons, males, who never resorted to the privies, escaped completely. He speculates as to the growth of typhoid from beginnings like these by relating a case which was seen by a second medical man and pronounced unmistakable typhoid, where there had been a case ending fatally, and certified as diarrhœa, in the house eleven months before. This case of typhoid ended fatally, and was followed by another case of true typhoid. Here the synthesis of typhoid seems fairly made out.

Some little time ago, when visiting in Somersetshire, I went with my host, a medical man, to see some cases,—one of undoubted typhoid, the other of diarrhœa with pyrexia and prostration,—such as those spoken of by Dr. Low, where the surroundings were very filthy, and fluid filth from a pig-sty found its way into the well of drinking-water till in the sunlight the water was opalescent. Though Dr. Low may not be said to have demonstrated his point beyond the possibility of cavil, it must be admitted that he has made out a case *a priori* so strong that he can fairly demand that country practitioners should investigate their cases of typhoid fever with the view of seeing how few a number are not originated by excreta from some already existing case of typhoid, but are, in some instances at least, bred up from filth and culpable dirtiness of habits. My experience as a country practitioner in the past certainly places me on Dr. Low's side as to the origin of some cases of typhoid fever.

That cases of typhoid coming in from a distance must be rare in that district, and the history palpable enough if occurring, is shown by the following details: "We have the same succession of heather, hills, moors, and bogs, wooded glens and mountain torrents, as in the scenes of 'Wuthering Heights.' Our people believe in ghosts. My predecessor in this practice has been seen (as it is said) more than once since his death. They believe in witchcraft and charms. Calves die from

spells cast by old women. Children take fits from 'evil eyes' being thrown at them, etc. As an example of our seclusion, I may relate an instance. My predecessor was attending a family (on a lonely moor) with diphtheria. The day after he saw them a heavy snow-storm came on, and, on making the attempt to reach the house, he failed, owing to the deep snow-drifts. He managed six miles, but the remaining three baffled him. A whole village set to work, and in five or six days cut a narrow path for him and his horse; but on his arrival he found four or five corpses in the house. Another example: Last winter, in a snow-storm, my colleague was sent for to a lonely house twelve miles off. He sent his assistant, who came back with the news that an operation for strangulated hernia was required. Next day my colleague and his assistant rode the twelve miles through the snow, and reached the house in the afternoon. As it was growing dark, they asked for candles, to afford sufficient light for the operation; but a messenger had to walk a distance of six miles over the snowy moor to the nearest village before he could get light sufficient for the operation. The delay, I regret to say, was against the success of the case, and the patient died." This will furnish the reader with an idea of what "country practice" is in some parts of Old England, and also tells how the neglect of all, or almost all, sanitary arrangements, from ignorance quite as much as indifference, may lead to diphtheria and typhoid fever,—indeed, to those maladies which are notoriously associated, causally, with filthy surroundings.

While on the subject of country practitioners it may be well to consider briefly what Dr. Angus Macdonald, of Edinburgh, has recently said about puerperal fever. Most of us can remember the time when the very thought of puerperal fever filled the medical man's mind with horror and dread. He knew of instances where a doctor had carried with him, in his function as an obstetrician, death to parturient patient after parturient patient, until the grim fact that he was the cause of death was forced upon his consciousness. Then he left his practice for some time, at a ruinous expense, partly from actual expenditure, partly from making nothing during the time, to return to realize the truth that a number of his best patients were dead, and that dismay and distrust reigned in the minds of those who remained. I, at least, can remember well what my father used to think on this subject. A contemporary of his had been the death of some dozen women consecutively, and had to leave his shattered practice for months before he regarded it safe to return. And it would rather surprise us now to hear how slowly the conviction dawned on these men of the past that the doctor was really the infecting agent; also, how dull must have been the apprehension of the moral culpability of remaining at work as obstetricians when death succeeded death. One of the grandest outcomes of antiseptics is the practical abolition of puerperal fever in an endemic form. Dr. Macdonald speaks of these antiquated plans of dealing with the spread of puerperal fever, and points out that now they are superseded. He points to the fact that it is in all cases "a true septic intoxication, a fever of resorption, and differs essentially in no wise from surgical fever." Abrasions and lesions of continuity of the lining mucous membrane of the fæcal tract favor absorption. Micrococci are the infecting agents, it would appear. A solution of one per cent. of carbolic acid is sufficient to destroy these minute organisms. The doctor must be careful to see that his clothes may not carry infection from one patient to another; no ablution of the hands, however perfect, can prevent that source of mischief from being operative. The bare arm must alone be used in connection with a post-parturient patient. As an evidence of the immunity attainable by proper precautions, he said that in the spring of 1879 he met with a case of puerperal fever in a patient of good social position, where for ten days he personally, twice daily, dressed a vulval ulcer and gave the vaginal douches. During this time he performed craniotomy, put on the forceps high up, practised turning, and extracted an aborted fœtus, without the slightest bad consequences of any kind. Had the remotest bad symptom showed itself he would have desisted from his obstetric labors at once, and without delay. As to his procedures, when called upon to examine or lift a patient suffering from puerperal septicæmia he always takes off his coat and rolls up his shirt-sleeves; he then washes his hands in turpentine or rubs them with carbolic oil. After his work is accomplished, then he washes his hands in turpentine and soap and water, using a nail-brush freely. Then he washes his hands in a five-per-cent. solution of carbolic acid, and finally puts them under a tap of running water. "Considerable importance," he says, "appears to me to be attached to the latter proceeding, as the running stream makes it certain that everything is carried away as well as washed off the hands. If a basin be employed the hands are brought from time to time into contact with any septic matter that might remain undestroyed in the basin." He is careful, however, while advocating the perfect protection afforded by resort to antiseptic precautions, to insist, "Nothing could be further from my intention in this contribution than to inculcate carelessness or do anything which could bring danger to patients or disgrace to obstetricians. But, on the other hand, I am anxious that everything should be done for unfortunate patients suffering from puerperal septicæmia which is consistent with fairness to the unaffected and

to the obstetrician in charge." He does not believe that the abstinence from practice advocated by certain obstetrical authorities is necessary or effective; indeed, he says it is not acted upon by these very preachers of the doctrine,—a rather strong statement.

He goes on to say, "For aimless and haphazard suspension from professional duty I would substitute the most thorough cleanliness and disinfection, believing that in the latter means the real safety of the patient lies. I have published my experience in this matter in the hope that it may encourage others to trust to and practise disinfectant appliances in similar emergencies." This principle of thorough, rapid, and complete disinfection ought also to be practised by nurses and midwives. If practised, he thinks it would not be so often necessary to change the nurses attending upon post-parturient patients. Midwives ought to be educated to use these disinfectant measures, as "time is only a very uncertain element in disinfection." He concludes with a strong expression of opinion that if these disinfectant measures were universally adopted the occurrence of puerperal septicæmia, in both private and maternity practice, would be largely diminished.

J. Milner Fothergill.

PROCEEDINGS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

Thursday Evening, October 28, 1880.

The President, Dr. S. W. Gross, in the chair.

Large spindle-celled sarcoma of the sheath of the penis. Presented by Dr. W. G. Porter.

JOHN H. HENTON, black, widower for the second time, New York, æt. 44, temperate, was admitted to the Presbyterian Hospital on the 25th of August, 1880, and gave the following history. His health had always been good. He had never had any venereal disease, and he was the father of three healthy children. In March last, while employed as a porter in a large retail clothing-house, he was engaged in moving a very heavy package from a truck to the cellar, and while sustaining an unusually heavy weight, he felt something give way in his groin. He immediately dropped his end of the package, vomited, lay down, and felt so sick that he had to stop work. He went home and remained in bed for several days. He then returned to work, but in a few weeks noticed a tumor in the right inguinal region, which rapidly increased in size. Supposing that he was ruptured, he applied to an instrument-maker for a truss, who gave him a suspensory bandage. The tumor from this time enlarged very rapidly, and he was soon compelled to stop work, and applied to me for relief. On examination, a large tumor was found filling up the right groin, surrounding the penis, and extending deeply into the perineum. Neither testicle was implicated by the growth. The tumor was heavy and exceedingly hard. There were no evidences of fluctuation about it, and throughout the tumor felt as hard as a fibroid. There was no difficulty in passing water, and a bougie or catheter readily entered the bladder, and the course of the urethra could be easily demonstrated on it. As the man was incapacitated for work and the tumor was increasing in size, its removal was advised, and on the 27th of September, with the advice and assistance of the surgical staff of the hospital and of Prof. S. D. Gross and Dr. S. W. Gross, the tumor was removed. An oblique incision was made over the long axis of the growth, and after a rather tedious dissection by knife and finger the attachment was found to be to the right side of the sheath of the corpus cavernosum of the penis; only at one point, and that a small one, was the cavernous body itself involved. The hemorrhage was slight and was controlled by the ligation of several bleeding points. There was some capillary oozing, which was controlled by the application of hot water. The wound was carbolized, a drainage-tube inserted, the lips of the wound approximated by stitches, a compress and bandage applied, and the patient removed to bed. He soon came out from the ether, showed no evidence of shock, and seemed to be in good condition. In the early morning of the next day his belly became tympanitic, and he complained of the wound being tender and sore. The compress and bandage were removed, as there had been no oozing, and the wound was lightly dressed. He passed his urine without the assistance of the catheter. A turpentine enema brought away large quantities of gas. The following day the penis was swollen and the prepuce very œdematous; the belly tympanitic again. Enemas and the passage of a rectal tube failed to give relief. The patient suffered considerable pain; the tongue was dry; the edges of the wound dry, glazed, and erysipelatous; no discharge from the wound or drainage-tube; the penis became gangrenous; the belly remained tympanitic, and the patient died, exhausted, on the 1st of October, four days after the operation. Autopsy showed no evidences of peritonitis or cellulitis, though there was some very fetid gas in the peritoneum, but nothing but the local lesions already detailed to account for death.

Dr. Seiler said that he had made a number of sections from the tumor which had been sent him by Dr. Porter, and on examination had found them to consist of spindle- and round-cells of the large variety, the

former predominating, so that the growth should, in his opinion, be described as a large spindle-cell sarcoma.

Dr. S. W. GROSS said that through the kindness of Dr. Porter he had seen the tumor before its removal, and had then regarded it as a sarcoma. The operation plainly showed that it arose from the sheath of the right corpus cavernosum, which is continuous with the superficial perineal fascia, as was first demonstrated by Dr. Buck, of New York, and that it had invaded the tunica albuginea of the corresponding body to the extent of about two-thirds of an inch. He had looked up the literature of the subject, and the only reference he could find to a similar growth was a case recorded by Kochler in the *Charité Annalen*, 1878, and quoted in the *Index Medicus* for July, 1880. In a late posthumous work of Demarquay, published by two of his pupils, and entitled "Maladies Chirurgicales du Pénis," no mention is made of any such growths. From this he would infer that sarcoma was a very rare affection in this region, and that in all probability this case of Dr. Porter's was the only one that had ever been reported in this country.

Hypertrophy of the prepuce. Presented by Dr. J. E. GARRETSON.

Patient a native of the island of Barbadoes; age, 60 years. Associated with the enlargement and induration of the prepuce there was an apparent relaxation of the tissues of the scrotum, that appendage being some ten inches in length and of very little less width. The hypertrophy of part shown commenced several years back. When in place over the glans the full circumference of the structure seemed involved; when retracted the thickening was seen to be confined to one side. Removal was not attended by any hemorrhage. The case occupied the ordinary time of an operation for circumcision.

Tumor of mammary region. Presented by Dr. J. E. GARRETSON.

The tumor shown was removed from the superficial fascia overlying the right mammary gland of a lady aged 40 years. It is hard, lobulated, contracted. The concentration of the growth afforded indication for its removal. The time of development has been about two years. In the absence of anything self-explanatory the tumor is to be classified with the neoplasms.

Dr. S. W. Gross in examining the specimen thought that he could detect a distinct capsule, which would, of course, exclude the idea of carcinoma. As it had been kept some time, however, he might be in error, and would suggest the reference of the specimen to the Committee on Morbid Growths.

Dr. Garretson asked the President if he then considered it to be non-carcinomatous.

Dr. Gross replied that if this appearance of a capsule was not produced by the condensing effects of the preservative agent, and if he understood Dr. Garretson rightly as to its not involving the structure of the mammary gland, he should most decidedly consider it to be non-carcinomatous.

Report of the Committee on Morbid Growths.—"The tumor removed from the mammary region by Dr. Garretson, and referred to your Committee on Morbid Growths, is found upon microscopic examination to consist mostly of dense fibrous tissue, in which are seen the remains of glandular acini and ducts in a state of atrophy. The growth is an interacinous fibroma."

Nerve-tumor. Presented by Dr. J. E. GARRETSON.

The egg-like tumor upon the plate was removed from the very centre of the posterior tibial nerve of a gentleman aged 55. The growth is of several years' standing; it is allied to a similar tumor in relation with the outer cord of the lower cervical plexus. A tumor, supposed to be of like character, was dissected from the dorsal surface of the right index-finger. The growth shown had disparted the fibres of the nerve wherever it lay, and was the cause of much pain in parts supplied by the sacral plexus of nerves. The patient, himself a professional gentleman, had been treated a long time for rheumatism. The discovery of the tumor in the leg altered the treatment to that for neuroma. The growth removed from the finger is believed to have been an adenoma. The tumor upon the plate is reasonably to be designated a neuroma. It is presented to the Society for microscopical observation.

Dr. Seiler had examined the first growth removed by Dr. Garretson, and had found it to consist chiefly of blood-vessels whose endothelium was in a state of proliferation. The intervascular connective tissue was increased in amount. From such appearances he would class it as an angeioma. From a cursory examination of the section from the second tumor, now under the microscope, he would be inclined to consider it a spindle-celled sarcoma, but, to afford opportunity for a more thorough examination, he would ask for its reference to the Committee on Morbid Growths.

Report of the Committee on Morbid Growths.—"A thin section made from the tumor situated upon the tibial nerve removed by Dr. Garretson shows, after staining with carmine, numerous nuclei, which are separated by a very indistinct and granular or slightly fibrillated intercellular substance. In many places the arrangement of the nuclei and cells is that which is observed when a section of very young tendon is examined,—longitudinal rows of cells placed at regular intervals and surrounding a bundle of fibrillæ; at other points transverse sections of the fi-

brillæ have been made, when the stellate lymph-spaces are seen anastomosing with one another. We were unable to find any structure which would indicate the presence of nerve-tissue. The growth may be said to consist of embryonal fibrous tissue."

Fibroma from the palmar surface of the hand, apparent exciting cause of reflex (Jacksonian) epilepsy. Presented by Dr. CHARLES K. MILLS.

I am indebted to Dr. L. F. Flick for the opportunity of presenting this specimen, the patient from whom it was removed having been for a long time under his care.

M. S., æt. 15, when four years old, fell down-stairs from a height of five steps, striking on the right palm. The hand was not bruised or cut, but the child suffered great pain in it for several weeks. Six months after the fall, two little growths about the size of a pea made their appearance, one on the palmar surface of the wrist, over the position of the common tendon of the flexor sublimis digitorum, the other in the palm of the hand, over the tendon going to the index-finger, about one-third of an inch from the metacarpo-phalangeal joint. The tumor at the wrist was painful, and grew gradually for five years until it became as large as a hickory-nut. It was then treated systematically with liniments and bandaging, and in three years more disappeared. The tumor in the palm continued very slowly to increase.

Six months after the first appearance of the growths the child began to suffer from attacks of spasm, at first affecting chiefly the right hand. They recurred usually once in about ten days or two weeks. The spasms gradually grew worse; eventually the right arm and leg and the right side of the face would jerk. For the last ten years she has continued to have seizures, generally at intervals of a week or two, but sometimes oftener. The limbs and face of the right side have always been more affected by the spasm than the same regions on the left. The twitching has invariably begun in the fingers of the right hand, and has been preceded by pain in the palmar tumor. The patient, who has always remained conscious, as the attacks have come on would grasp her right hand with her left, or would call on some one else to do this. Chloral, bromides, and other antispasmodics have been used freely, but without any evident effect.

In February, 1880, she began to have a series of paroxysms much more violent than any she had before experienced. At first the attacks came only more frequently during the nights, especially after twelve o'clock. After a few days, however, they increased in number during the day also, until finally they recurred every two or three minutes day and night, ether, bromides, and other medicines having no effect. Menstruation now set in for the first time, and at once the convulsions ceased, after having continued as just described for two weeks. She grew stronger speedily, and for four months did not have another seizure. She now again began to have occasional fits. Menstruation was not well established.

Early in September, 1880, a second continuous series of convulsive attacks began. At this time, in addition to her dysmenorrhœal symptoms, her digestion was much deranged. I saw her first, with Dr. Flick, on the 15th of September, and since have seen her frequently both during and between her paroxysms. A curious feature has been that as soon as she would fall asleep an attack would come on, while during her waking moments she would often rest easy. She could sometimes control the spasms by force of will; and a smart slap with the hand would sometimes cause the attack to cease.

The following is a description of the usual character of the attacks, as determined from the notes of Dr. Flick, and from personal observation:

The distal phalanx of the ring-finger of the right hand was first flexed; secondly, a few spasmodic movements of flexion would occur in this finger; thirdly, the other fingers and thumb of this hand would begin to twitch convulsively,—the second phalanges would be flexed, the last extended; fourthly, the clonic convulsive movement would extend the right hand, forearm, and arm, and simultaneously the muscles of the lower part of the right side of the face would become affected with spasm, a tremor also appearing in the tongue during this period; fifthly, the right arm and leg would now become affected with a clonic spasm, causing them to assume positions of flexion, the head, neck, and body being drawn by the spasm, at the same time, to the right, a condition of pleurothotonus being, in fact, produced. The seizures would pass off with a very severe jerking movement of the right shoulder, and a renewal of the twitching of the muscles of the right angle of the mouth. These movements of the shoulder and mouth would sometimes occur only once, just before the close of the attack; more frequently, however, they would take place two or three times in succession. Occasionally the patient would bite her tongue during the paroxysm. She apparently was never entirely unconscious during an attack, no matter how severe it might be. During the height of the convulsion, if her hand was pressed too hard, she would manage to gasp out, "Don't!" or to make some other exclamation.

After trying bromides, morphia, etherization, blistering, etc., without avail, I advised the immediate removal of the tumor. On the 26th of September, Dr. S. W. Gross removed the growth, Drs. Hearn, Kirkpatrick, Flick, and myself being present at the operation. The tumor was found to be a firm, lobulated

mass, three-fourths of an inch long and about half an inch in each of its other dimensions. When it was first exposed, a small nerve-branch could be seen passing over its upper inner edge. It was somewhat firmly attached to that tendon of the flexor sublimis digitorum which goes to the index-finger.

The growth was placed for microscopical examination in the hands of Dr. Carl Seiler, who reported it to be a fibroma.

The following, in brief, is the history of the case for the four weeks which have elapsed since the operation. She has been kept absolutely without treatment for the spasms. She improved at once in her general condition. She has averaged a little less than one attack a day since. The right hand or arm has never been affected in any of these seizures, only a few of which have been severe.

Remarks.—I am inclined to look upon the spasms in this case as primarily, at least, reflex, the fibroma of the palm acting as an exciting cause. This seems probable for a number of reasons. (1) The spasms appeared after the fall and the development of the growths. (2) Before the removal of the tumor the spasm invariably began in the finger of the right hand, on the palm of which the growth was situated. (3) The spasms were usually of the nature of monospasms, or unilateral convulsions of the right side of the body. (4) The spasms became much less frequent and severe, and ceased to begin in the fingers of the right hand, after the operation.

The convulsive disease from which this child has suffered has all the characteristics of what has been termed "Jacksonian epilepsy," in honor of Hughlings-Jackson. By a "Jacksonian epilepsy" is meant a convulsive affection confined to a group of muscles, to a limb or to two limbs, or to face and limbs of the same side, and usually commencing in the same way. Consciousness sometimes is and sometimes is not lost. Unilateral convulsions are more likely to be associated with loss of consciousness than spasm confined to the face or to one limb.

Have we in a case like this any real morbid changes in the brain? Without doubt, I think, such changes have taken place. Post-mortem examination would probably reveal inflammatory changes of the cortex, most marked in the middle Rolandic region of the hemisphere. The presence of the tumor in the hand may, of course, be merely a coincidence, and we may have here in the arm-centre of the left side a tumor, cyst, tubercle, or other lesion, irritative in character and the primitive cause of the monospasm. Cases are on record corresponding in their main features, as regards the origin and progress of the spasmodic manifestations, with our case, and in which, after death, small cysts or tumors have been found in the motor zone of the convolutions.

Removal of left superior maxilla, left malar, nasal, lateral mass of ethmoid and pterygoid processes of sphenoid for tubular epitheliomatous pharyngeal polypus. Presented by Dr. C. B. NANCREDE.

Charles Muscavitz, aged 52 years, a Pole, was admitted into the male surgical ward of the Protestant Episcopal Hospital in the early part of September, 1880. He most positively asserted that he had noticed nothing until two months before coming to me, when his eye began to be protruded. When I first saw him his left eye was displaced outwards and upwards by a firm, hard mass, seemingly involving the internal angular process of the frontal bone, the nasal process of the superior maxillary, and the orbital plate of the same bone to a limited extent. There was no bulging of the infraorbital region, but, the finger being introduced into the mouth, a slight fulness with tenderness could be detected beneath the zygoma. The posterior portion of the hard palate was slightly depressed, while the soft palate was bulged downwards. By carrying the finger behind the soft palate into the pharynx a large, irregular, lobulated mass was detected, completely filling up this cavity, except perhaps towards its right moiety. The nasal process of the left superior maxilla and the nasal bones were pushed upwards and outwards by the extension of the growth into the left nasal chamber. Indeed, polypoid masses could be detected by both the eye and finger, completely filling the left nostril. I diagnosed a malignant pharyngeal polypus. After consultation with my colleagues, I determined to extirpate the growth with the involved bones. The patient having been first etherized, the Fergusson incision was made and the flap reflected. All hemorrhage having been arrested, chloroform was administered in the place of ether, and the operation completed in the ordinary manner, with a few exceptions presently to be mentioned. Owing to the failure of the bone-forceps to divide the zygoma, the whole malar bone came away, from some lateral motion in using the instrument. Only a part of the tumor came away with the superior maxilla, owing to its firm connections with the roof of the pharynx. The portions of tumor left after the removal of the upper jaw were torn away by the fingers or Fergusson forceps, or cut away with scissors. Owing to the able manner in which I was assisted by my colleagues, Drs. Forbes and Hunter, very little blood was lost. One unusual circumstance was the ease with which hemorrhage was arrested, owing to the fortunate circumstance of the stump of the internal maxillary artery projecting some half inch or more, thus admitting of its ligation. Only a very sparing use of the hot iron was requisite. The whole wound was wiped out with chloride of zinc. The case did well, with the exception of sloughing of the cornea, some two weeks after the operation, from secondary

implication of the nerve, either by inflammation or extension, perhaps, of disease into the sphenoidal fissure. Examination showed that the whole left superior maxilla, the left lateral mass of the ethmoid, part of the vertical plate of the same bone, the left nasal, the lachrymal, the left malar, and both left pterygoid processes of the sphenoid had been removed.

Microscopical Report, by Dr. J. H. C. Simes.—"The growth, upon microscopic examination, is seen to consist of epithelial cells, forming solid tubes or peg-like prolongations, which branch and anastomose with other similar prolongations. Between the tubes is a small amount of fibrous tissue infiltrated with embryonic cells. In some of the pegs the cells have arranged themselves in a concentric manner, forming, somewhat imperfectly, cell-nests or pearly bodies. This histological arrangement of elements would place the growth under the epitheliomata, and, according to Cornil and Ranvier, with the tubular variety of this class of tumors."

Polypous tumor of labia. Exhibited by Dr. H. F. FORMAD.

Dr. U. M. Beachly, of Meyersville, Pa., sent me this interesting tumor for examination, accompanied by the following history:

Removed from a married lady, aged 38, robust health, weight 210 pounds; eight children, all living. The tumor has been developing for four years. Never gave her much pain. It was attached by a pedicle to the right labia pudenda. The pedicle was two and a half inches in length and one-quarter inch in diameter, having a peculiar appearance, resembling the trachea of a small animal. The tumor when removed was two ounces in weight, in external appearance resembling a cauliflower growth, having an uneven surface, covered by a skin, consistency soft and elastic, and in color bright red. On one side of the tumor was a scab which bled freely when removed.

Upon microscopic examination, the tumor shows the structure of a lipomatous myxoma.

Dr. S. W. Gross said that such tumors were very rare, but that Virchow had delineated a pedunculated myxomatous tumor of the labium majus of much larger size than the one just presented by Dr. Formad, and that Paget refers to several examples.

Metastatic osteoid round-celled sarcoma of the skull, dura mater, and lower maxilla. By SAMUEL W. GROSS, M.D.

On the 27th of September, 1879, I amputated through the middle of the arm of a boy two years of age, on account of a periosteal osteoid round-celled sarcoma of the left ulna, which measured three inches and a half in length and two inches and a half in width, and began to develop at the age of three months. On dissection of the limb, four sarcomatous lymphatic glands, none of which exceeded the size of a large bean, were discovered along the line of the brachial artery above the elbow. In my comments upon the case before the Philadelphia Academy of Surgery, October 6, 1879,* I called attention to the fact that the ulna was rarely the seat of the disease; that the lymphatic glands were implicated in only 6.25 per cent. of the forty-five cases which I had analyzed; that the subject was the youngest on record; that the prognosis of these neoplasms was most unfavorable, since two-thirds of all patients die with metastatic deposits whether they are subjected to operation or not; and that the secondary growths were most common in the lungs, lymphatic glands, and the osseous system.

On the 25th of June, 1880, the child was brought to me with a densely-hard tumor of the right temporal region as large as the half of an ordinary orange. This continued to increase, but the child had been enjoying tolerable health, the only troubles having been complaints of the weight of the head and difficulty in mastication on the right side, on account of a tumor of the right ramus of the lower jaw, until the night of October 25, when it was seized with convulsions, which were of short duration and very frequent, at least twelve having occurred in thirty minutes. These continued, at more prolonged intervals, until noon of October 27, when death ensued after a violent paroxysm.

For the following notes of the post-mortem examination, which was made twenty-two hours after death, I am indebted to Dr. Ames, resident physician in the Jefferson Medical College Hospital:

"Rigor mortis well marked; extreme emaciation; lower extremities œdematous; stump healthy. On the right side of the head there was a tumor, soft on its surface but hard at its circumference, which was limited above by the temporal ridge, and extended one inch below the condyle of the lower jaw. Its basal circumference was sixteen inches and a quarter, and it measured nine inches from the outer angle of the eye to the posterior portion of the parietal bone. The temporal veins were enlarged, and the skin was discolored just behind the ear. A second tumor was situated in the ramus of the right inferior maxilla, and measured three inches from the outer angle of the eye to the angle of the jaw, and three inches and a quarter from the angle of the mouth to the condyle of the jaw. Upon removing the firmly-adherent scalp, a tumor as large as a hickory-nut was discovered at the junction of the parietal and occipital bones, and was connected, through what seemed to be the posterior fontanel, with the interior of the skull. Another growth, of the same dimensions, was seated at the upper and posterior junction of the temporal and parietal

* Medical Times, July 3, 1880, p. 500.

bones. The left parietal, temporal, occipital, and frontal bones were of a dark-blue color, and the right parietal bone overlapped the frontal bone for a quarter of an inch. All the bones were thin and very brittle. The dura mater was congested, and an ante-mortem clot three inches long occupied the longitudinal sinus. The arachnoid was normal, but the pia mater was deeply congested. The substance of the brain was very soft, and its veins were engorged. A tumor three inches long, three and a half inches wide, and two inches thick occupied the middle fossa of the skull, and the corresponding lobe of the brain was almost diffluent. The tumor itself was firmly attached to the inner surface of the dura mater, and sent prolongations through that membrane to another tumor of about the same size growing from its outer surface. The large tumor of the right temporal bone appeared to originate in its medulla."

All of the smaller tumors are of a brain-like consistence, and do not appear to be the seat of ossific or calcareous deposits. The large tumor, however, is precisely similar to the primary growth of the ulna, and is beset by delicate spicules of bone which radiate from its centre to its circumference. As the specimens have been removed so short a time, there has been no microscopical examination of their minute structure; but I have no doubt that they will be found to be of the same nature as the primary tumor, which consisted of small round-cells contained in a finely-granular matrix.

THE SPECIFIC AGENT OF TYPHOID FEVER.—Prof. Klebs, of Prague (*Brit. Med. Jour.*, vol. ii., 1880, p. 629), believes that he has discovered the micro-organism which constitutes the specific agent of typhoid fever, and develops his views in a paper entitled "Der Ileotyphus eine Schistomycose," published in the *Archiv für Experiment. Pathologie*, Bd. xii. p. 231, 1880. Prof. Klebs has for a long time, assisted by his pupils, been making researches in this direction. He writes that he has been able to find, at the necropsy of twenty-four persons carried off by dothinenteritis, microbes in various organs,—in the intestinal mucous membrane, in the thickness of the cartilages of the larynx, in the pia mater, in the foci of lobular pneumonia, in the mesenteric ganglia, in the parenchymata of the liver, and generally diffused in the organs which showed the most decided lesions. These micro-organisms showed themselves in the form of rods, about eighty micrometers in length and 0.5 to 0.6 micrometer in thickness. They have been constantly observed in the bodies of dothinenteric patients since the attention of Prof. Klebs was drawn to the subject, and they are always absent from the organs, and especially the intestines, of subjects who have died from any other disease than typhoid.

PHILADELPHIA ACADEMY OF SURGERY.

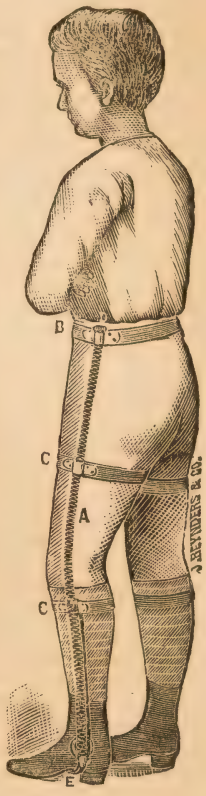
MEETING OF NOVEMBER 1, 1880.

The President, DR. S. D. GROSS, in the Chair.

CLUB-FOOT, SPLINT FOR EARLY TREATMENT OF. BY DE F. WILLARD, M.D.

THE splint here shown is one devised by Dr. Doyle, of Syracuse, and while it does not, to my mind, act sufficiently upon the medio-tarsal articulations to make it serviceable in bad cases of deformity, yet its principle is so simple and perfect in action that I deem it of great advantage in a certain number of cases.

It consists of a pelvic band buckled about the body and prevented from turning by shoulder-straps. From this extends a steel spiral or "flexible shaft," as it is called by machinists, along the outside of the leg, to be fastened into the shoe. This is three-eighths of an inch in diameter, and is held in position by straps encircling the thigh and leg. From the calf to the foot additional strength is secured by a steel upright riveted to the sole of the shoe and jointed at the ankle.



A. Spiral steel spring.
B. Belt around the hips.
C. Loops to hold spring in place.
D. Set-screw by which tension is regulated.
E. Plate by which the spring is fastened to the shoe.

Where but one spring is worn, a strap should be thrown across the opposite shoulder to prevent the belt from shifting.

In applying the apparatus the pelvic- and thigh-bands are secured, when, if the case be one of varus, the shoe is rotated *once* inward; the foot is then placed in it and fastened by lacing. It will at once be seen that the constant tendency of this spring will be to uncoil itself into its original position, and in doing this it must carry outward the toes. In valgus the action would be reversed. It is a force exerted gently, constantly, and "coaxingly," awake and asleep, and if increased power be required the shoe can be rotated twice or three times before it is applied to the foot.

A great advantage obtained by its use is the fact that it in no wise interferes with either the motion of the leg or the action of any muscle, save of the ones which it is intended to antagonize. Its tendency to straighten

itself as a whole would, in a slight degree, raise the anterior part of the foot, and to that extent benefit even an equinus.

As I have said, it does not act with much force upon the medio-tarsal joints; yet its applicability to very young children is greatly in its favor, as it can thus be used as a continual assistant to manipulations. As is well known, the majority of cases of congenital varus can be cured by manipulation and stretching, but as the hands of the surgeon cannot be always in service, and as the mother will not do this more than fifteen minutes during the day, it will be seen that a force acting steadily through the remaining twenty-three and three-quarter hours will prove no mean accessory, even though it be not equal to the hand of the surgeon or nurse. Such a splint applied even during the first week of the child's life could do no harm, and if nickel-plated the urine would have but little effect upon it. By the time that three months have passed, and the child is ready for tenotomy, it will frequently be found that no operation is necessary save section of the tendo Achillis.

For pigeon-toed cases this spiral rotator would be most perfect in its action, and the principle could be employed with advantage on any limb which is deformed by rotation upon its long axis. The inventor has used it for torticollis,* and also employs it after division of tendons in varus and equinus. I like the mode of action of the spiral, and shall certainly give it a full trial. If it could be secured firmly to the upper part of the leg, its rotating effect upon the foot would be exerted to a much greater extent; in its present form both hip and knee are influenced.

Dr. T. G. Morton believes that in very young children talipes varus depends more on the bones than on the muscles, and hence he is accustomed to press the tarsal bones into position with his thumbs at once. Sometimes ether is required during this procedure. This method for very young children he has found very satisfactory. After the bony deformity has been rectified, the mother is directed to manipulate the foot frequently and the surgeon sees that the parts are properly everted by manipulation. Finally, after the varus has been cured, the condition of equinus (when the child begins to walk, say, when a year old), should it exist, is remedied by tenotomy. The spiral rotator of Dr. Doyle would hardly have sufficient power to force even the bones of infancy into the proper position.

COMPLETE EXCISION OF THE ELBOW FOR GUNSHOT INJURY, WITH GOOD RESULT.

Dr. R. J. Levis presented to the Academy a case of extensive excision of the elbow-joint, with the following history. A burglar, while entering premises, was shot by a gun set as a trap, and the entire charge of small shot and wadding entered the back of elbow. The upper extremities of the radius and ulna were comminuted, and the lower end of the humerus was split vertically and repeatedly perforated by the shot. The large arterial and nerve trunks were uninjured, and it was determined to make an effort to save the limb by making a complete and extended excision.

The section of the lower end of the humerus, which was exhibited, measures three inches in length, and the comminuted radius and ulna were removed to about a similar extent. The medullary cavity was invaded by the section. It is now seven weeks since the operation, and the parts have cicatrized. The motions of the hand are strong and complete, but at the place of the excision there remains a flail-like union, over which the patient has at this time very little control. It seems probable, however, that as the cicatrix contracts and solidifies the bond of union will shorten, become more rigid, and bring the ends of the divided bones more nearly into apposition, so that the muscles of the arm can resume control of the motions of flexion and extension. If this should fail from want of fixation, some artificial encasement supporting the new joint may be available in regaining the usefulness of the extremity.

In cases of complete excision of the elbow where there is a loose flail-like bond of union, some patients attain the power of controlling its movements by contracting all of the muscles which act on the joint, thus bringing the bones into apposition and producing rigidity, and then the excessive action of either flexors or extensors can effect a corresponding movement.

In excisions of the elbow it is important that the ulnar nerve shall be turned out of its groove behind the internal condyle without being divided or wounded. Experience shows that such injury of the ulnar nerve is followed not only by loss of power of the structures to which it is distributed, but there occurs wasting of parts beyond those which are supplied by that nerve, due probably to influences through its peripheral connection with other nerves.

The elbow seems more amenable to successful excision than any other of the larger joints of the extremities, to which the comparatively superficial position of its posterior surface and the narrowing of bones immediately above and below their articular surfaces seem to conduce. The invasion of the medullary cavity of the humerus does not seem to invalidate success.

Dr. T. G. Morton thought he had never seen a more discouraging case for excision, since the whole outside of the elbow was blown off and so much tissue had to be removed. The free drainage from behind was probably an important point in the subsequent result.

* New York Medical Record, June, 1880.

TWO CASES OF COMPOUND COMMINUTED FRACTURE OF THE ANKLE, WITH LUXATION; RECOVERY WITHOUT OPERATION.

These cases were presented by Dr. T. G. Morton, who gave the following histories:

Anton W., aged 24, a coppersmith, was admitted May 4, 1880, with a compound comminution of the left tibia, with compound luxation of the ankle. In the foundry in which this man was working, a swinging copper kettle fell from its chain, striking him upon the outer side of the left ankle, causing the above injury. The open wound was three and a half inches long, running across the inner malleolus, evidently caused by the end of the tibia, which was thrust through the skin; the articulating surface could be seen; the heel was thrown far backwards and upwards, and the foot was also everted, but the fibula was intact. Loose fragments of bone could be felt in the wound, and there was not much bruising of the parts.

Dr. Hunt removed two fragments of the articulating surface of the tibia, washed out the joint with carbolized water, tied two small vessels, introduced drainage-tube, and covered the vent with charpie wrung out of carbolized oil. He then suspended the limb loosely in a fracture-box, having applied plaster bandage from the knee to the toes, allowing vent for tube.

May 7, plaster bandage had to be cut on account of swelling. There was free suppuration, with much redness and joint swollen.

June 12, bran dressing applied, and, as pus had bagged and collected behind the outer side of the ankle, an opening was made.

July 2, leg removed from bran; wounds healing. At the present time the man can walk very well, and shows a good recovery without operation.

The second case, Thomas D., aged 50 years, was admitted to the Pennsylvania Hospital, June 28, 1880, with compound luxation of tibia and comminuted fracture of fibula, with the joint freely opened. During a street-brawl he was thrown down with his left foot caught in a cellar-door, and fell sidewise while the foot was thus entangled. The tibia was protruding one and a half inches through a wound over the malleolus three inches in length. There was considerable hemorrhage, though the main vessels were uninjured.

The tibia was reduced, and irrigation with a weak solution of permanganate of potassium commenced as the line of treatment. This was continued for more than two weeks, when a carbolized-oil dressing was substituted. Subsequently a few fragments of bone were removed from the outside of the limb, evidently from the fibula.

The patient was discharged cured, with a good limb, during October, and is presented for the examination of the Fellows of the Academy.

Dr. William Hunt said that the first case was an exception to the dictum given at the time the paper of Dr. Brinton, advising amputation, was read. He at first intended to amputate, but had decided to try conservatism, and the patient recovered. The man nearly died, however, during the course of the treatment, and it may be that this case, by inducing us to attempt conservative surgery in other instances, will cause numerous deaths.

Dr. C. T. Hunter mentioned two similar cases under his care at the University Hospital, where cure resulted without operative interference. They were worse in appearance than the first case presented by Dr. Morton. If the vessels are intact he believed that it was usually well to make conservative efforts without operation of any kind, since the improved methods of treating such cases, by antiseptic dressings and drainage, allow much to be done in this way that formerly was impossible. He mentioned also a case of gunshot wound of the knee followed by cure without operative interference. The general plan of treatment in such instances is by immobility, which is the most important point of all, through drainage and irrigation. Immobility cannot be obtained by the fracture-box, but the fixed dressing does accomplish it.

Dr. R. J. Levis was of the opinion that the non-operative plan of managing such injuries was opposed to the usual experience of surgeons.

PULSATING TUMOR SITUATED BELOW THE BEND OF THE ELBOW.

Dr. R. J. Levis introduced a patient who presented a pulsatile tumor situated below the bend of the right elbow. The history was indefinite. There was less pulsation on the radial side of the arm than on the ulnar. The radial pulse was perceptible; the ulnar was not. Pressure on the brachial artery arrested pulsation in the tumor, but did not render the diagnosis much clearer. For two weeks the patient had had a great deal of pain in the part, which showed considerable superficial redness. The case seemed like an aneurism involving the ulnar artery bound down by deep fascia, but might be malignant disease of great vascularity, especially as spontaneous aneurism in this locality is almost unknown. The man also had a large enchondromatous tumor attached to the thorax over the cardiac region.

The Fellows were asked as to their experience of aneurism in this situation, but none of those present had ever seen aneurismal dilatation in this region except as the result of traumatism.

Dr. William Hunt expressed his opinion that spontaneous aneurism here is rare, because the brachial artery slips laterally when flexion occurs at this joint. The artery rolls or slides inwards nearly an inch, and thus avoids being pinched. The popliteal artery

has no such lateral motion, and is frequently the seat of aneurism.

Dr. S. W. Gross believed the case, on superficial examination, to be a round-celled pulsatile sarcoma.

(To be continued.)

GLEANINGS FROM EXCHANGES.

Treatment of Fibroid Tumors of the Womb by Ergot and Chloride of Ammonium.—Prof. Goodell, in a paper read before the Medical Society of the State of Pennsylvania, says, "There is no question of the occasional benefit derived from the persistent use of ergot, which, by constringing the uterine walls, cuts off the blood-supply of the fibroid. But, while I have repeatedly seen the tumor grow much smaller under its use, I have also seen the remedy do more harm than good. Ergot is best administered hypodermically, and preferably in the subumbilical region of the abdomen, where it gives least pain, and where its skin-stains are best concealed. Bonjean's purified extract of ergot, in the proportion of fifty grains dissolved in three hundred minims of distilled water, is for this purpose a very trustworthy preparation. One or two hypodermic syringefuls is the dose, which should for several weeks, or even months, be deeply injected once every day." In one case, where the patient dreaded any surgical interference, and even objected to hypodermic injections, Dr. Goodell decided to try, by the mouth, a combination of ergot and ammonium chloride. She daily took from twenty to forty drops of the former, and ten grains of the latter. After eleven months of this treatment she came to see him in last March, and he was astonished at her improved appearance. Her hemorrhages had wholly ceased, and so reduced in size was the fibroid that, to discover it, careful examination was needed. Yet, on the other hand, ergot, however administered, will occasionally not only do no good, but will greatly increase the hemorrhages, especially when the tumor lies under the mucous coat of the womb and projects into its cavity. Then, again, there are peculiar idiosyncrasies which cannot bear ergot in any form or in any dose. Such persons are either greatly nauseated by its use, or they complain of intolerable headache, and the remedy must be withheld. Further, the use of ergot is not wholly without danger. Through the squeezing which the tumor gets from the ergotic contractions of the uterine walls necrosis may take place, and this, while curative, is liable to cause blood-poisoning through absorption of putrilage. Twice has Dr. Goodell met with a metro-peritonitis set up by the violent contractions of a womb made vulnerable by the presence of a growth in its wall. In one of these cases, that of a multiple fibroid, the issue was fatal. Despite these drawbacks, however, especially when combined with ammonium chloride, it is so efficient an agent in mitigating the more exacting symptoms arising from a uterine fibroid that its use should always precede every other treatment.

Radical Treatment of Fibroid Tumors of the Womb.—In the paper above quoted, Prof. Goodell says, after discussing the use of ergot, that where ergot, together with its staunch ally, ammonium chloride, has been tried and found wanting, the radical or surgical treatment must be brought into use to remove these growths. He adds that, having performed enucleation by avulsion fourteen times, he can speak in positive terms of its value. His method of operating is as follows. First, seize the tumor with a strong fenestrated polypus-forceps, or with a volsella-forceps whenever the growth is too smooth and too glib to be securely held by the former instrument. He prefers the fenestrated forceps, because, being without teeth, it is not only safer than the volsella, but it does not have to be opened so widely, and, therefore, needs less room. The tumor being firmly held, the loop of a wire écraseur is slipped over the handle of the forceps, and then bent backward towards the operator, so that the beak of the écraseur shall first enter the uterine cavity. When the beak touches the fundus of the womb, the wire is coaxed up beyond the claws of the forceps, and as much higher up as possible. The slack of the wire is next drawn in, and its free end secured to one of the cross-bars of the écraseur, so that a half-crushing and a half-cutting movement shall be secured. The mucous coat alone is now cut through as flush with the uterine wall as possible. The fibroid is then wrenched from its bed, by traction and by a twisting movement made both with the écraseur and the forceps, while firm suprapubic pressure is kept up by the hands of an assistant. Sometimes the seized portion will break off. Then the portion left behind must be caught, noosed, and treated, if possible, in precisely the same manner.

Twice has he been foiled in trying to remove the whole tumor in this way. In these cases the projecting portion of the fibroid was shaved off flush with the wall of the womb. But the portion left behind was in a few days so pushed out, or enucleated, by the uterine contractions as to enable him to remove it by a second operation. Subperitoneal fibroids are not amenable to any radical treatment per vaginam. If pedunculated, they can be treated like ovarian tumors, by laparotomy. Sometimes they are removable by enucleation through an abdominal incision. In one case Dr. Goodell obtained perfect success by removing the ovaries and thus artificially bringing on the change of life.

Indications in Opium-Poisoning.—Dr. Kane, in a chapter devoted to the subject in his work on "The Hypodermic Injection of

Morphia," speaks at length of the treatment of opium narcosis. He tabulates all the remedies usually found of benefit in these cases, and gives the indications for treatment, as follows:

To aid to establish respiration.
To stimulate the heart.
To produce general stimulation.
To counteract soporific effects.
To produce diuresis.

He believes opium and belladonna mutually antidotal in certain particulars only, and cites the experiments and conclusions of many well-known writers upon the subject. The value of coffee, or its active principle, is also discussed.

A Case of Poisoning by Duboisia.—E. L. Holmes, of Chicago, reports the following case (*Chicago Med. Jour. and Exam.*, November, 1880). A patient at the Illinois Charitable Eye and Ear Infirmary, during convalescence after Graefe's operation for cataract, was provided with a small bottle of sulphate of duboisia, gr. j to ʒj, in place of sulphate of atropia, which caused considerable conjunctival inflammation. On the 27th of April, about nine o'clock in the evening, he took by mistake a "teaspoonful" of the solution. It cannot be determined whether the teaspoon was quite full. The patient at once informed other patients near him that he had taken the wrong solution, but concluded to await the result before reporting to the nurse. In about ten minutes there was dryness of the throat, and in half an hour a peculiar sensation in the legs, then in the thighs, arms, and other parts of the body, as if they were asleep. At the end of three-quarters of an hour, or more, the patient could scarcely talk or stand. Strange to say, not till this time did it occur to the patient or those around him to call the nurse. An active emetic was at once given, with the apparent effect of entirely relieving the stomach of its contents. Without delirium the patient rapidly passed into a state of unconsciousness, and remained in this condition till about five o'clock in the morning. He complained for two days of muscular weakness in the legs and arms, and especially noted a peculiar jerking action of the muscles of the arm in extending the hand to grasp a glass or other object. Dr. Holmes saw the patient at midnight. He was lying quietly, breathing naturally, but in a stupor from which he could not be aroused. The face was not specially flushed, although the mouth and tongue were remarkably dry. The temperature, as determined by the thermometer, had been normal. The pulse varied from 108 to 112. Some time previous to this, before unconsciousness became quite complete, the patient made efforts to sit up in bed. The pulse always fell to 80 when the patient sat up, and increased on lying down. No other symptoms were noticed. An ounce of brandy was given through the night. Morphia was not given as an antidote.

Double Cystic Kidney with Renal Calculi.—From a Danish source the *British Medical Journal* of October 30, 1880, takes the report of a man 37 years of age, who had first voided a renal calculus in 1871 and another in the autumn of 1872. Since that time his health had been good, but sometimes he had a feeling of weight in the loins and discharged a little gravel. On July 1, 1879, he took cold, and soon noticed that the daily quantity of urine diminished, until the 8th, when there was suppression. He was admitted to the hospital on July 9; his bladder was then empty. In the course of the next night he voided about seven ounces of urine with his stools. He complained only of soreness in the region of the right kidney. The urine could not be examined until the 15th, when it was found to contain much albumen. On that day symptoms of uræmia set in, and he died on the 16th. At the necropsy the kidneys were found to be both greatly enlarged, the left, however, more than the right, and both presented almost complete cystic change. The renal parenchyma remaining in the interspaces between the cysts had a yellow-gray turbid appearance. The pelvis of the right kidney was much dilated and contained a large nodulated calculus, the lower part of which was rounded and covered in the orifice of the ureter, which was dilated. The left ureter, at a distance of about two inches from the kidney, was completely blocked up by a calculus of moderate size; below this the canal was completely strictured by indurated connective tissue, scarcely allowing the passage of a fine sound. Above the stone the ureter was dilated, and the pelvis and calices especially were greatly expanded.

Dr. Axel Key, who examined the specimens, thinks it remarkable to find such extensive changes in the kidneys of a person who had enjoyed relatively good health up to a fortnight before his death. He regards the cystic change as having been principally congenital, and as having no connection with the formation of the renal calculi and the consequent obstruction to the flow of urine. The renal parenchyma, which was found between the cysts, had been sufficient for the function of the kidneys. When the renal concretions began to be formed, hydronephrosis was gradually developed, and in connection with it a chronic nephritis with interstitial and parenchymatous changes, which went on for a time without producing any marked disturbance, until at last an acute exacerbation set in and rapidly caused death.

Atropia in Chloroform Anæsthesia.—A correspondent of the *British Medical Journal* (October 30, 1880), referring to a previous communication on this subject by Mr. Shäfer (see *Medical Times*, November 20), says that the subject has been for some years worked out by Professor T. R. Fraser, of Edinburgh,

who has shown atropia to be a cardiac stimulant, advisable when chloroform is to be given. It stimulates the heart, not only indirectly, by lowering the conductivity of the cardiac terminations of the vagi, and thus, of course, diminishing their inhibitory power, but also directly, by stimulating the intramural motor ganglia of the heart, and possibly, also, by raising the excitability of the accelerator nerve to the heart from the cervical sympathetic ganglia, and perhaps it may even stimulate the cardio-motor centres in the medulla oblongata. Dr. Frazer considers it advisable to combine with the atropia a little morphia, say $\frac{1}{120}$ to $\frac{1}{60}$ grain of sulphate of atropia and $\frac{1}{12}$ to $\frac{1}{8}$ grain of acetate or hydrochlorate of morphia. These are injected about fifteen or twenty minutes before the administration of chloroform is begun, and by this means (1) not only is the patient in a less nervous state when the inhalation is commenced, but (2) less chloroform is required, and (3), moreover, a very objectionable evil is got rid of, or, at all events, ameliorated,—viz., the emesis which is apt to occur with chloroform. In the cases in which the correspondent of the *British Medical Journal* has seen this method followed there has been no vomiting whatever, although in some the inhalation was considerably prolonged.

The Treatment of Tapeworm.—At a recent meeting of the New York Pathological Society (*New York Medical Record*, November 20, 1880) Dr. Tauszky described his treatment as follows: Three ounces of pomegranate-root are soaked for twenty-four hours in eight ounces of water. This is then boiled down to three ounces, to which are added three ounces of the ethereal extract of male fern, one and a half drachms of sulphuric ether, two drachms of fluid extract of valerian, one drop of croton oil, and one and a half ounces of honey. The patient then abstains from all food save herrings and onions, and also from water. The dose of the medicine given is one-third every half-hour. As soon as the patient feels intestinal contractions or colic, whether this is after the first, the second, or the third dose, one ounce of castor oil is administered hourly in cold black coffee, without sugar, until the worm is expelled. In case the vermicide mixture causes nausea, lemonade, ice pills, or strong, cold black coffee, without sugar, relieves it. The preparatory treatment is a dose of castor oil forty-eight hours before taking the worm medicine, so as to empty the bowels thoroughly of fæces. Milk diet exclusively for twenty-four hours following the laxative, and the twenty-four hours before taking the mixture. The patient abstains from food and drink, except that he occasionally takes a little salad, made up of salt herring, onions, and garlic. [If the doctor can get him to take such a mess, which we much doubt.—Ed.] After the worm is expelled, mucilaginous food only is taken for a day or two, and a starch and laudanum enema in case of tenesmus.

Paralysis of Cranial Nerves in Congenital Syphilis.—At a recent meeting of the Pathological Society (*Lancet*, vol. ii., 1880, p. 657), Mr. Nettleship brought forward a living specimen, a girl of stunted growth, having distinct evidence of congenital syphilis. She was affected on the right side with partial anæsthesia of the parts supplied by the first and second divisions of the fifth nerve, complete paralysis of the sixth nerve, and partial of the third and fourth. There was also opacity of the cornea, old iritis, choroiditis, and probably retinitis; it was impossible to tell the exact condition of the optic nerve, but vision was fair. The right eye was apparently markedly smaller than the left, which might perhaps be connected with an obvious asymmetry of the bones. There was old keratitis and choroiditis on the left side, but no paralysis. He was unable to say whether the seat of the lesion was in the orbit or the cranium; there were no symptoms of disease in either. The President, Mr. Hutchinson, stated that there had been many recent additions to our knowledge of brain and nerve disease in inherited syphilis. He himself had published two or three cases of ocular paralysis, but it was bilateral, giving evidence of a central origin: he had never met with a case where there was distinct evidence of pressure on the trunks of nerves.

Poisoning with Homœopathic Granules of "Nux."—Dr. Gaspar Griswold (*New York Med. Record*, vol. ii., 1880, p. 374) gives the case of a patient who was accustomed to take five homœopathic granules of "nux" repeated two or three times for sick-headache. On one occasion, however, she went beyond this dose, and took fourteen granules, taking it five times—the dose amounting to seventy granules in all—in the course of an hour and a half. Alarming symptoms of strychnia-poisoning supervened, which were finally overcome and the patient recovered.

Perforation of Membrana Tympani by Ascaris Lumbricoides.—Dr. Lewis W. Reynolds (*Lancet*, vol. ii., 1880, p. 653) was called to see a little girl who two weeks before had vomited several round-worms and about the same time suffered severely from dyspnœa and intense pain in the chest and abdomen. Shortly before the doctor's arrival the patient had vomited two worms, and three more were discharged from her nostrils, her nose bleeding first for three hours. Four grains of santonin powder were prescribed, to be taken at bedtime, after taking which four worms were passed per rectum for the first time. Three or four hours after taking the second powder, and having previously suffered from an intense earache, a neighbor discovered a worm protruding from each ear and both ears bleeding; the same day three others came away

from the ears, others were discharged from the ears and also from the bowels, seventy-four in all. The patient afterwards showed excoriation of either meatus and a large perforation of both membrana tympani. She finally recovered.

INFLUENCE OF ALCOHOLIC BATHS ON THE PERSPIRATORY FUNCTION OF THE SKIN.—Dr. S. Wassalieff found that, after the skin had been thoroughly rubbed with alcohol, hot baths induced much more profuse perspiration, exceeding sometimes four and five times the amount of water lost, without previous treatment with alcohol. Hence the two processes should always be combined when there is indication for extraction of a considerable quantity of water through the skin. Dr. Wassalieff explains the action of alcohol by an irritation of the sensitive and perhaps also of the secretory nerves of the skin, and also by the removal of fat from the surface of the skin and the glandular pores.—*New York Medical Record;* from *Wratch.*, 1880, No. 13.

FATTY TUMOR OF THE LARYNX.—At a recent meeting of the Pathological Society (*Lancet*, vol. ii., 1880, p. 656) Mr. Sydney Jones showed a fatty tumor as large as a Tangerine orange, with a pedunculated attachment to the right aryteno-epiglottidean fold. It was met with in a man forty years of age. On opening his mouth, nothing abnormal was seen, but when he gave a peculiar gulp the tumor was brought up and lay on the dorsum of the tongue. It was removed by freely dividing the mucous membrane of the pedicle and tearing it out. A small cyst was found in it.

PRURITUS VULVÆ.—Dr. Tauzsky recommends the following (*New York Medical Record*, vol. ii , 1880, p. 387):

℞ Pulvis acaciæ, ʒii;
Bals. Peruvian., ʒi;
Ol. amygdalæ, ʒiss;
Aquæ rosæ, ʒi.—M.

Apply freely with a camel's-hair brush eight or ten times a day to the itching part.

MISCELLANY.

UNIVERSITY OF PENNSYLVANIA.—We learn that the trustees of the University contemplate using the chance afforded them by the interregnum in the line of provosts to make some organic changes in the duties of this office and that of vice-provost. For many years the vice-provost has had no duties of moment, or only in the absence of the provost; but meanwhile the duties of the provost have multiplied, so that it has become desirable, in electing a gentleman to fill this place, to assign to the vice-provost, under the authority of the provost, many of the details of administration, and to leave to the provost certain work which will not necessitate his giving to it most of his time, and will thus enable the trustees to select a competent presiding officer out of the ranks of the learned professions. Under this arrangement the provost would preside over trustee meetings and sit on important committees. He would interest himself with the general policy of the university, with the inter-relations of its schools, and foster and extend its relations to the State and city, as well as on all social occasions act as its representative. Such labors would not be inconsistent with the work of a profession, so that we hope soon to learn that the trustees have succeeded in finding among us some worthy representative both of our State and of the alumni of the school. The new appointee will be in reality a chancellor, and it is said that this change of title was at one time contemplated; but it was deemed best that the old and honored title of provost should be retained.

THE LAW OF SLANDER AS APPLIED TO PHYSICIANS.—Mr. W. H. Whittaker has in a recent number of the *American Law Register* of this city a very learned paper upon the above subject, from which we extract the conclusions:

"The question still remains, when do the misrepresentations of a physician's practice in a particular case warrant the presumptions of damage? It is allowed that slanderous words alleging gross ignorance generally, or such ignorance or thorough incapacity as unfits him for the proper exercise of his profession, are actionable *per se*. To say of a physician, 'He is a quack' (Pickford *vs.* Gutch, Dorchester Assizes, 1787); or, 'He is an empiric and a mountebank' (Vin. Abr., Act. for Words, S. a. 12); or, 'He is a quack; if he shows you a diploma it is a forgery' (Moises *vs.* Thornton, 8 Term Rep., 303); or, 'He is no doctor; he bought his diploma for fifty dollars' (Bergold *vs.* Puchta, 2 Thomp. & C., N. Y., 522); or, 'He is a drunken fool and an ass, and never was a scholar' (Cawdrey *vs.* Tetley, Godb., 441); or, 'He has killed six children in one year' (Carroll *vs.* White, 33 Barb., 615); or, 'It is a world of blood that he has to answer for in this town through his ignorance. He was the death of J. P. He killed his patient with physic' (Tutty *vs.* Alewin, 11 Mod., 221); or, 'I wonder you had him to attend him. Do you know him? He is not an apothecary; he has not passed any examination. He is a bad character; none of the medical men here will meet him. Several have died that he has attended to, and there have been inquests held upon them' (Southee *vs.* Denny, 1 Ex., 196). In all these cases it has been held that damages are inferable without proof; but to say of a physician, 'He is so steady drunk that he cannot get business any more' (1 Ohio, 83, n.); or, 'He is a twopenny bleeder' (Foster *vs.* Small, 3 Whart., 138); or to charge an allopathic physician with having met homœopathists in con-

sultation, and that in the opinion of the profession it was improper to do so, and against etiquette; and, further, that in the opinion of the profession it was disgraceful to meet a homœopathist in consultation (Clay *vs.* Roberts, 8 L. T., N. S., 397); or to charge him with adultery, not necessarily touching him in his profession, without showing that it was connected with his profession (Ayre *vs.* Craven, 2 Ad. & E., 2), have been held not actionable *per se*.

"While the authorities are generally agreed as to charges of gross ignorance or incapacity in the exercise of the duties of the physician, it is not easy to determine what words are actionable in themselves in special instances. In analogous and even in precisely similar cases, the courts are divided. Where the words were, 'He killed my child; it was the saline injection that did it' (Edsall *vs.* Russell, 4 M. & G., 1090); or, 'He has killed my child by giving it too much calomel' (Johnson *vs.* Robertson, 8 Porter, 486), they have been held actionable *per se*. And, on the contrary, the words, 'He has killed his patient with physic' (Poe *vs.* Mondford, *supra*); or, "In my opinion the bitters A fixed for B were the cause of his death' (Jones *vs.* Diver, 22 Ind., 184); or, 'He gave my child too much mercury, or made the medicines wrong through jealousy, because I would not allow him to use his own judgment' (Edsall *vs.* Russell, *supra*), have been held not actionable in themselves.

"In the examination of these cases, it will be found that where the physician is charged with killing his patient, the words have been held actionable on account of the imputation of crime which they import, and the only case in which such language has been held not actionable is that of Poe *vs.* Mondford, of an early origin.

"How such words necessarily import the crime of murder or manslaughter, in the absence of any expression of intention, is not quite clear. . . . Perhaps it would be more fatal to resort to legal proceedings in any case. If the physician does, he is compelled to show special damages, for none will be inferred. This alone would cause many to hesitate before bringing an action. The difficulty attendant upon proving damages, the length of time intervening between the publication and consequences of a slander, would deter many from the prosecution of the slanderer.

"As the cases now stand, one may bring almost any charge of misconduct against a physician in a particular case, without subjecting himself to an action for damages *per se*, provided it does not come within the category of a statutory crime or impute to him general incapacity."—*Cincinnati Lancet and Clinic*.

A Mycological Serenade.—The following verses, by Mr. Wilson, North Kimmundy, Aberdeen, were read at the dinner of the Cryptogamic Society, held during its meeting in Glasgow:

To Clara Marchella Deliciosa.

O lovely Clara, hie with me
Where Cryptogams in beauty spore,
Corticiums creep on trunk and tree,
And fairy rings their curves restore;
Mycelia there pervade the ground,
And many a painted Pileus rear,
Agaric rend their veils around
The Ranal overture to hear.

Where gay Peziza flaunt their hues,
A microscopic store we'll glean,
To sketch with camera the views
In which the Ascus may be seen.
Beneath our millimetric gaze
Sporidia's length will stand revealed,
And eyes like thine will trace the maze
In each Hymeneum concealed.

Æstivum tubers we shall dig,
Like Suidæ in Fagian shade,
And many a Sphæria-sheltering twig
Will in our vascula be laid.
For hard Sclerotia we shall peer,
In barks and brassicaceous leaves,
And trace their progress through the year,
Like bobbies on the track of thieves.

While sages deem Solanum sent
To succor Homo's hungry maw,
We'll prize it for development
Of swelling Peronospora.
We'll mount the Myxogaster's threads
To watch Plasmodium's vital flow,
While Capillitia lift their heads
Generic mysteries to show.

I'll bring thee where the Chanterelles
Inspire a mycologic theme,
While Phallus in the shadow smells
And scarlet Amanita gleam;
And lead thee where McMoorlan's rye
Is waving black with ergot spurs,
Where many a Trichobasian dye
Gives worth to corn and prickly burs.

And when the beetle calls us home
We'll gather on our lingering way
The violaceous Insolome
And russet Alutacea;
The brown Boletus edulis
Our fishing-baskets soon will fill;
We'll dine on fungi fried in bliss,
Nor dread the peck of butcher's bill.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM NOVEMBER 28 TO DECEMBER 11, 1880.

Brown, J. M., Captain and Assistant-Surgeon.—Granted leave of absence for one month, with permission to apply for three months' extension. S. O. 264, Department of the Missouri, December 2, 1880.

Coues, Elliott, Captain and Assistant-Surgeon.—Relieved from duty assigned him in S. O. 134, July 3, 1876, from A. G. O., and to report in person to the Commanding Officer, Department of Arizona, for assignment to duty. S. O. 251, A. G. O., November 26, 1880.

O'Reilly, R. M., Captain and Assistant-Surgeon.—The extension of his leave of absence on account of sickness, granted him August 16, 1880, still further extended six months on Surgeon's certificate of disability. S. O. 259, A. G. O., December 7, 1880.

King, J. H. T., Captain and Assistant-Surgeon.—Granted leave of absence for four months. S. O. 253, A. G. O., November 29, 1880.

De Loffre, A. A., Captain and Assistant-Surgeon.—Relieved from duty at Camp on White River, Col., and assigned to duty at Fort Wallace, Kansas. S. O. 269, Department of the Missouri, December 8, 1880.

Hall, William R., Captain and Assistant-Surgeon.—Assigned to duty at Camp on White River, Col. S. O. 269, c. s., Department of the Missouri.

PHILADELPHIA, JANUARY 1, 1881.

ORIGINAL COMMUNICATIONS.

THE JUDICIOUS USE OF THE MICROSCOPE IN MEDICAL PRACTICE.

Read before the Philadelphia County Medical Society, October 27, 1880,

BY CARL SEILER, M.D.,

Pathologist to the Presbyterian Hospital of Philadelphia.

THERE is no doubt that the microscope is an all-important help to the physician in his practice, if rightly used, and will frequently aid him in solving perplexing questions. But it is argued by most practitioners that it takes too much time to use the microscope, that the eyes suffer from the frequent use of the instrument, and that the work of preparing specimens for examination is too tedious and requires too many accessories. The object of this paper is to meet these objections and to show what can be done in a limited time and with limited means.

In the first place, a good instrument, from a reliable dealer, should be obtained, and should be fitted with a blue glass below the stage, so as to reduce the yellowness of artificial light, which, after all, is more convenient to use than daylight. Two objectives (an eight-tenth or one inch, and a one-quarter or one-fifth, of moderate angle) and two oculars (A and B) usually are included in the price to be paid for the instrument, and are sufficient for all purposes to which the practitioner will apply his instrument. A microtome and a good section-knife should also be purchased; and with these ends the list of apparatus. Of course, more objectives and accessories may be added to the instrument, but they are in most cases unnecessary, except, perhaps, a sub-stage condenser and a bull's-eye lens, which, if properly adjusted, produce an illumination which is not only agreeable to the eye and enhances the definition of the objectives, but also, what is all-important, does not tire the eye in the least; so that the microscope can be used for hours at a time without fatigue to the sense of sight. The fatigue of the eye and the injury to the sight, so often complained of as being caused by microscopical examinations, are in most cases due to the unconscious effort of the eye to see clearly an ill-defined and badly-illuminated object. The best test for illumination is a slide of blood upon which the corpuscles are spread in a thin layer. They will appear, when properly illuminated, as olive-colored disks with a depressed centre and a sharply-defined, intensely black margin; but if not properly illuminated their outline will be misty, and one or more rings will be noticed on the surface of the disks with a bright or dark spot in the centre, according to the focus at which they are viewed. A sub-stage condenser, however, which is not in the centre, so that its optical axis falls in a line with the optical axis of the objective, is worse than none at all; and it should therefore be mounted in such a manner that it can readily be centred, which makes it a rather expensive piece of apparatus. Without it excellent results can be obtained; and most of the discoveries in microscopy have been made with simple instruments handled skilfully.

The preparation of specimens for microscopical examination takes some time and skill, it is true, but not more than even a busy practitioner can afford, provided he is methodical and does not allow material to accumulate. A plan, as I shall describe presently, has been found to work admirably, and three hours a week have been found sufficient to build up one of the richest and best cabinets of pathological preparations in the country.

This plan is as follows. Four wide-mouthed jars holding about one-half pint should be filled three-quarters full of the following solutions: alcohol, forty-five per cent., in No. 1; alcohol, sixty per cent., in No. 2; alcohol, eighty per cent., in No. 3; and alcohol, ninety-five per cent., in No. 4. As the material is collected in the daily route, from operations or post-mortem examinations, each piece, which should not be larger than a cubic inch, is to be labelled, by fastening to it with a pin a piece of stiff writing-paper, upon which the necessary remarks are written with ink, and then to be dropped into jar No. 1. By expending fifteen minutes twice a week in transferring the pieces of material from one jar to the next one, it will be found that at the end of two weeks they will be ready for cutting. If, now, once a week two hours are set aside

for cutting sections, staining, and mounting of all the pieces of material found in jar No. 4, it will be seen that in two and a half hours a week specimens can be prepared, which may be examined during leisure moments.

In order to cut the sections the material is to be imbedded in a mixture of paraffin (two parts) and rendered mutton-tallow (one part), poured while warm into the well of the microtome. When cool and hard, the imbedding material is to be cut away in front and on either side of the specimen, but is left standing behind, when with the section-knife thin sections may be cut. These should then be placed in alcohol, and the thinnest and most complete of them selected for staining and mounting.*

In order to stain the sections they should be immersed for a few minutes in a solution of carmine prepared as follows:

Take of

Carmine, No. 40, gr. xv;
Borax, ℥j;
Water, f℥vss;
Alcohol (95 per cent.), f℥xj.

Mix and filter; then dissolve the crystals remaining on the filter-paper in eight fluidounces of distilled water, and evaporate in a water-bath to four fluidounces. This is called Woodward's Lilac Fluid, and may be purchased from most dealers in microscopical apparatus. From this carmine solution the sections are to be transferred to a solution of hydrochloric acid one part to alcohol (ninety-five per cent.) four parts, in which solution the stained sections should remain a few seconds, until their color has changed from a lilac to a light rose-red, and should then be washed in several changes of alcohol. Finally, they should remain for several minutes in strong alcohol (preferably Squibb's absolute alcohol), and then be immersed in oil of cloves or turpentine in order to make them transparent. After this the sections may be spread out upon a glass slip, covered with a thin cover-glass, and examined under the microscope. If found of sufficient value, they may be permanently mounted in balsam or dammar, labelled, and put away for future reference.

The spreading of the tissue upon the slide, as well as the wiping of the cover-glass, is a rather tedious process, and can be avoided by omitting the clearing of the specimen in oil of cloves, and by using a peculiarly-formed pair of forceps devised by myself some time ago. This may be done in the following manner. After the sections have been stained and have remained in strong alcohol for some time, a clean cover-glass is taken from the bottle with alcohol in which the covers are kept for use. Without wiping it, it is immersed in the alcohol containing the stained sections, being held horizontal by the mounting-forceps, and the section is floated upon it. The cover is then lifted out of the alcohol, with the section lying spread out upon its surface, and a drop of an alcoholic solution of Canada balsam is placed on the section. The cover with the section on it is then put aside, and the balsam is allowed to dry partially, which it will have done in a few hours. When thus partially dried, a drop of crude benzole is placed upon the surface of the balsam, and the cover is placed, with the balsam downward, upon a warm slide, and is gently pressed down.

The time occupied in cutting the section, staining, clearing, and mounting it, will not exceed five or ten minutes if the operator is at all familiar with the different steps; and such familiarity is very readily acquired. I do not want to convey the impression that by this method the best possible preparations of *all* tissues can be obtained, but I claim for it that the preparations will be fairly good, and will answer all purposes for which they are intended.

The examination of fluids, which is so necessary in medical practice, may also be made with little trouble on the part of the practitioner. He should provide himself with a few conical sherry-glasses, and pour the sample of urine or other fluid to be examined into one of them, labelling it with the name of the patient from whom obtained, and covering it with a piece of glass to keep out the dust. After a few hours a small portion of the sediment can be removed with a glass tube, placed upon a slide, and examined. Great care should, however, be exercised in keeping the glasses clean and emptying them immediately after the examination has been concluded.

In order to eliminate one of the most frequent sources of error in microscopical examinations, viz., the introduction of

* For description of the author's microtome, see Proceedings of Philadelphia County Medical Society, vol. i. p. 97, and vol. ii. p. 29.

extraneous matter under the cover-glass, both the glass slides and the covers should be carefully cleaned in the following manner. Place new slides, or such as have been used before, in a mixture of

Potass. bichromate, ℥ij;
Acid sulph. (commercial), f℥v;
Water, f℥xx;

and allow them to remain therein for a day or two; then wash them under a tap and stand them on end upon blotting-paper to dry.

Cover-glasses should also be placed in the above solution contained in a wide-mouthed bottle, and after they have been soaked for some time the acid solution is to be decanted off and clean water is to be poured on and off until all trace of the yellow color due to the bichromate of potassium has disappeared, when the bottle may be filled with strong alcohol, and the covers taken from it and wiped dry as they are needed.

The practitioner will find himself amply repaid for the trouble and time spent upon this work, not only by the pleasure he derives from it, but also by the knowledge he gains, and he will often be better able to understand the symptoms of a given case by bearing in mind the picture which his microscope showed him of the pathological changes in this or that organ.

1346 Spruce Street.

SOLUBLE COMPRESSED PELLETS —A NEW FORM OF REMEDIES FOR HYPODERMIC USE.

Read before the Philadelphia County Medical Society, October 27, 1880,

BY H. AUGUSTUS WILSON, M.D.,

Surgeon in Charge of the Eye and Ear Department of St. Mary's Hospital; Assistant, Medical Clinic, Jefferson College Hospital.

SOLUTIONS for hypodermic use have been very generally abandoned because the *penicillum*, which so soon forms, renders the use of medicines in this form uncertain, if not dangerous.

Because of the danger and uncertainty, as well as the inconvenience of carrying the medicines in solution, the profession has resorted, where practicable, to the use of powders, which are carried either in the hypodermic or pocket case.

It is as a substitute for the latter that I propose the new form of soluble compressed pellets, because of their convenient size and certainty of contents and action. I have confined my experiments to the salts of morphia because it is the drug most frequently used hypodermically, and because I felt confident that if I could succeed with this drug it would be but a simple matter to place in the same form other remedies, such as strychnia, arsenic, apomorphia, etc.

I would here say that Dr. Lawrence Wolff, the well-known pharmacist, has aided me very materially in perfecting the form and in the numerous experiments which have been made.

The result of our first attempt to obtain a soluble pill I now show you. Besides the morphia it contains one-quarter of a grain of white sugar; but the moisture necessary to roll the pills rendered them difficult to dissolve when required. Then the compressed form was tried with sugar; but the smarting, burning pain which immediately ensued led me to believe that the sugar was an irritant to the tissues, and, instead of aiding, really interfered with the process: therefore sodium chloride was substituted, which I found had not the disadvantages of sugar and possessed merits of its own.

The use of the sodium chloride will be apparent when I say that if morphia salts are compressed alone they become extremely hard and very slowly soluble. Hence the necessity of mixing thoroughly, before compression, some material which at the same time shall give increased bulk, be inert, and have a great affinity for water. The sodium chloride acts as a *disintegrator*, for upon coming in contact with water it readily dissolves and leaves the morphia in a fine state of subdivision, ready to be acted upon by water. The sodium chloride, instead of causing pain or irritation, seems really to assist in promoting absorption. To accomplish the solution usually requires not more than thirty seconds, and may be brought about as follows. The syringe is charged with about twenty minims of water, which is poured into a teaspoon or other convenient receptacle; the pellet, being dropped in, is crushed with the end of the syringe, to which the needle fits, and after all the lumps are broken the solution is drawn up and forced out three or four times, when usually the whole mass will be entirely dissolved and ready for use.

I have experimented with nearly all the salts of morphia with reference to their hypodermic use when combined with so-

dium chloride, and would express my belief that the muriate is the one to be chosen. It is the salt that the German practitioners have selected, as being less likely to change when kept for a considerable time; and as the acid is the same as that found in sodium chloride there is no chemical incompatibility. It is slightly less soluble than the sulphate; but this slight difference is counterbalanced by the greater certainty of immunity from change.

It is well known that the addition of atropia sulphate greatly increases the hypnotic and anodyne properties of the morphia salts and decreases the tendency to after-headache and constipation. I have, therefore, used this combination in all my experiments, and would suggest the following formula:

℞ Morphiæ hydrochloratis, gr. $\frac{1}{4}$, .015
Atropiæ sulphatis, gr. $\frac{1}{100}$, .0004
Sodii chloridi, gr. $\frac{1}{4}$, .015
Mix and make into compressed pill No. 1.

I claim that the advantages of this method over any other known are—

1st. The convenient size of the pellets.

2d. That they may be used by the mouth if desirable.

3d. Their certainty of contents and dose.

4th. Their certainty and rapidity of action.

Those who have used the hypodermic method, and have often experienced the disadvantages of solutions and the inconveniences of powders, from their increased bulk and from the difficulty of removing all the powder from the paper, will, I trust, accept this my suggestion, and from actual use decide whether it is or is not an improvement upon existing methods.

331 South Twelfth Street.

NOTES OF HOSPITAL PRACTICE.

PENNSYLVANIA HOSPITAL.

CLINICAL SERVICE OF R. J. LEVIS, M.D.

Reported by Chas. H. Willits, M.D.

RAILROAD CRUSH OF THE LEG TREATED BY AMPUTATION AT THE KNEE-JOINT—INTRA-CAPSULAR FRACTURE OF THE FEMUR—CASES OF FRACTURE OF THE RADIUS, WITH IMPORTANT REMARKS UPON THE PATHOLOGY AND TREATMENT.

GENTLEMEN,—I bring before you this morning a man whose leg has been crushed by the passage over it of the wheel of a railroad-car.

When he was admitted, he was suffering from marked symptoms of shock, which were treated with stimulants and external warmth until good reaction had taken place.

If you examine the leg, you will see that there is great comminution of the tibia and fibula and a good deal of laceration of the soft parts. There is but little warmth in the foot, showing slight vitality, with pulsation present in the anterior tibial artery, but absent in the posterior tibial. Large spiculæ of bone have been removed from the wound, and can be readily picked out now, together with masses of pulpified muscle.

I have consulted with my colleagues, and have decided that, owing to the great destruction of the soft parts, and the cutting off of the nervous and vascular supply to the foot and leg, the only chance the man has for his life is in the loss of the limb. This opinion is also sustained by the experience of this hospital, which bears testimony to the fact that limbs can rarely be saved after having been traversed by the wheels of a railroad-car.

It does not matter what kind of flap I make in this case, whether I cut antero-posteriorly, laterally, from within outwards by transfixion, or shape it from without inwards. The plan usually preferred in this house is the latter one, the objection to transfixion being the superabundant mass of muscle which is contained in the flap. However, whatever form you employ, this rule should always be carried out: to have enough muscle to cover the bone and enough integument to cover the muscle.

As it has been an undecided question in the minds of surgeons which is the safer operation,—through the knee-joint or at the upper part of the leg,—you should be governed in your choice of locality by the condition of the soft parts. In the case before us, that which would offer the best operation is a supra-condyloid amputation at the knee-joint, cutting off the ends of the condyles so as to give a stump free from prominences, suitable for the application of an artificial limb.

I now locate the knee-joint, and, under the carbolic spray, enter my knife a little above the internal condyle, sweep it around to a corresponding point on the opposite side, making a good-sized anterior flap; after dissecting up the flap and removing

from it the patella, I make a short posterior flap, cut the crucial ligaments of the joint, and remove the limb. The ends of the condyles are now to be rounded off with the saw, all sharp edges removed with the bone-forceps, the arteries ligated, and the flaps brought together with sutures. The stump will be dressed with lint soaked in carbolized oil.

I now bring before you a case in which there probably is an intracapsular fracture. It is interesting on account of the obscurity in diagnosis which is always present in these cases, and the bearing which the diagnosis has upon the prognosis.

Intracapsular fracture occurs in advanced life, rarely before sixty years of age, and is due mainly to two causes,—first, to the senile change in the structure of the bone, and, secondly, to the shape of the neck of the femur, which is less obliquely attached to the shaft of the bone than in earlier life.

The present symptoms are alteration in the shape of the hip, pain, very slight crepitus, inability to stand or walk, eversion of the foot, and shortening of the leg amounting to about three-quarters of an inch.

Fractures in this position are produced by the most trivial causes, as a slight slip or twist. In this case the patient says he simply slipped on the ice without falling.

The differential diagnosis between this condition and *extra*capsular fracture is very difficult, and is based upon the following points: the age of the patient; the trivial cause; the moderate amount of shortening,—usually from one-half to one inch; the slight evidences, if any, of crepitus; and the fact that the radius of the arc of rotation in which the trochanter moves is greater in *intra-* than in *extra-*capsular fractures.

Another point which will sometimes clear obscure cases of hip-injuries is based upon the fact that there is normally a limit to the backward movement of the thigh, due to the neck of the bone impinging on the edge of the acetabulum. In these fractures this check is removed: so that if a patient be placed upon his face and the thigh drawn backward it can be demonstrated by abnormal mobility.

In the treatment of intracapsular fractures of the neck of the femur we use the ordinary extension apparatus of adhesive straps and a weight, which is applied for fractures in other portions of the bone.

This is done, not to bring about union, but because it overcomes muscular movements and gives the patient great comfort, and also guards against any dangers from a mistaken diagnosis.

Of course we do not expect union to take place, as the head of the femur is a completely isolated bone floating in synovial fluid, and we have no means by which the fragments could be brought in close apposition.

There is one pathological specimen of a united intracapsular fracture in the museum; but this was doubtless due to the fact that the periosteal connections had not been completely separated.

The prognosis should be guarded, on account of the obscurity in the diagnosis.

The next cases are of a class which I endeavor to show you frequently in this clinic, namely, fracture of the radius.

This is the most common of all fractures, one which is most frequently followed by deformity, and whose pathology and mechanism are least known.

Attention was first called to this subject by Colles, of Dublin; he described a fracture, under the name of Colles's fracture, which he located about one and one-half inches above the lower end of the radius.

Many other prominent surgeons believe the fracture to be about one-half inch from the joint; but my opinion, drawn from some practical studies in the museums here and abroad, leads me to place it one-quarter inch from the lower end of the bone.

Barton, a former surgeon of this hospital, described a fracture of the radius on purely hypothetical grounds, for he had never seen such a case.

His description is as follows: "A chipping off of the posterior edge of the articular end of the bone," allowing the bones of the wrist to slip upwards and backwards.

He thought this would account for the deformity so common in these fractures; but this has never been verified by any cases that I have ever heard of or seen.

This fracture is *transverse*, and is caused by what I call transverse or cross-breaking strain. For example, a patient falls, the hands are thrown out, and the wrist is extended to nearly a right angle. This produces a leverage in a transverse direc-

tion, which is usually sufficient to break the bone.

There is a peculiar deformity, very uniform in these cases, due to the displacement, which is always upwards and backwards, carrying the wrist and hand with it.

The treatment consists in restoring the bone to its former position, and its maintenance there. This is done by extension and forced flexion, and the use of a properly adapted splint.

There are a great many splints devised for this purpose, but they nearly all fail in the very object desired, namely, the retention of the displaced fragments.

Suppose you use a flat splint, as Bond's: your broken fragments are not in a proper position, for you cannot treat a normally *curved* bone with a *flat, straight* splint.

To obviate this, a pad is usually placed in the splint to give it the proper curve, which is then good enough, but is difficult to keep always in position.

In the pistol-shaped splint of Dupuytren, the hand is inverted, thus throwing the convexity of the wrist against the fragments, pushing it still farther out of position. To obviate this difficulty I devised this moulded splint. It is made of copper, can be bent to fit any sized arm, and has a pair of pockets or pouches, into which fit the thenar and hypothenar eminences of the hand, thus effectually preventing displacement.

This splint was made after carefully measuring the normal curvature of the radius and allowing a little for the skin and subcutaneous tissues.

Patients find this exceedingly comfortable; and since I have used it I have had no further difficulty.

PENNSYLVANIA HOSPITAL.

CLINICAL SERVICE OF DR. WILLIAM HUNT.

Reported by HENRY M. WETHERILL, M.D.

RAILROAD CRUSH OF THE LEG TREATED WITHOUT AMPUTATION.

WILLIAM A. FINK, æt. 29, was admitted to the Pennsylvania Hospital, March 22, 1880. About thirty minutes prior to admission the patient was waiting at a railroad-crossing for a train of freight-cars to go by, which had, however, halted upon the crossing. As they stopped he sprang up between the cars and attempted to swing himself across, when the train started, and his left leg was caught and crushed between the bumpers in such a manner as to expose the entire anterior surface of the tibia, the opening being twelve and a half inches in length and four inches in breadth at its widest point. The intermuscular spaces in the soft parts of the leg were torn apart, and the anterior tibial artery was exposed for one and a half inches of its course. Neither tibia nor fibula was broken, and the exposed periosteum upon the tibia appeared uninjured. The entire leg very much bruised, but the main vessels were intact. Shock was not very profound, the patient reacting well in a few hours. Very little bleeding. Leg kept in shape by straps of adhesive plaster, dressed with lint saturated in carbolized oil, and placed in fracture-box. The following is from the ward note-book:

March 26.—Extensive sloughing of integument and bagging of pus in the calf. Strapping removed, all tension taken off, and leg placed in a bran-box with carbolized dressing. Temperature, 104°; pulse, 100; respiration, 22. Quinia gr. viij daily.

April 5.—Temperature, which has been high, shot up to 107.5° after a chill; twenty grains quinia given at one dose. In five hours afterwards, temperature 101°; profuse suppuration and sloughing of muscular tissue and integument. Whiskey fʒiv daily. Urine normal.

8th.—The inner half of the gastrocnemius muscle has sloughed, and was cut away with scissors.

17th.—Midway up the posterior aspect of the thigh is a large collection of pus which has burrowed up along the hamstring tendons. This was evacuated by incision, and a pint of pus escaped. Patient's general condition very unfavorable. Temperature, 103°; pulse, 120, weak.

26th.—After very free suppuration, the opening in the thigh is granulating from the bottom. All sloughing has ceased in the leg, and the large granulating surface looks healthy. No change in treatment. Temperature down to 99°; pulse, 96. Condition improving.

May 8.—Another collection of pus along the hamstring tendons evacuated, this being much smaller than the preceding one.

24th.—Temperature has not been above normal for some days. Stopped quinine and whiskey. Fracture-box is dispensed with, and twenty small grafts of skin from

inner side of arm planted upon surface of ulcer, which has become rather sluggish.

June 4.—These all failed to grow, but have stimulated the ulcer very much.

10th.—Twenty skin-grafts, also taken from his own arm, were planted upon the ulcer, which is closing in under stimulus of grafts.

15th.—These grafts have all died.

25th.—Ulcer not advancing, and granulations getting superabundant. Nitrate of silver applied, and fifteen skin-grafts, taken from another individual, scattered over surface of ulcer.

30th.—Eleven of the grafts have taken.

July 10.—Placed fifteen grafts from a fellow-patient upon ulcer, which is healing very rapidly.

20th.—Last grafts all took. The ulcer, which involved the entire front, sides, and a portion of the back of the leg, being almost girdling, has healed entirely under the use of skin-grafts, and he now walks well without support. Though there is much loss of muscular tissue, yet there is little deformity or loss of function. Although his own skin was repeatedly grafted upon the ulcer, the experiment was not successful in a single instance; but the ulcer was finally closed in by grafts taken from the arms of several other persons.

Discharged cured.

This case is an interesting one, viewed as an example of conservative surgery. Probably few cases ever looked more hopeless; and the excellent result was as little expected by the patient as it was by the attending surgeons.

This man recovered from a temperature of 107.5°,—a circumstance of itself rather remarkable. Did the large dose of quinia abate this several degrees in a few hours? No other means for its reduction were employed.

His temperature ranged between 100° and 104° for a little more than four weeks, during which time suppuration was very profuse, and extensive sloughing of integument and muscles occurred.

Pus-absorption was evinced, at that period when the large collection of pus was evacuated from the thigh, by the slight and almost daily rigors, by the shooting up and down of temperature, by the sallow, dirty color of his general surface, and by the peculiar, sweetish, sickening odor of his breath.

It would have taken unassisted nature very long to heal this enormous ulcer. Skin-grafts, though they may not live, never fail to stimulate a dry, unhealthy ulcer to the formation of laudable pus. It is a significant fact in this case that the patient's own skin-grafts merely stimulated the ulcer, but failed to grow in a single instance, showing the low condition of vitality present; while skin-grafts taken from the arms of healthy individuals grew readily, and soon entirely covered in this almost denuded member,—a circumstance not at all new in the writer's experience, and therefore probably one of which the experience of older surgeons affords numerous examples.

Summing up the features in this case, it might well be called a fair example of tenacity to life under trying circumstances.

1237 Arch Street.

TRANSLATIONS.

Vomiting in Phthisis.—Dr. Ferraud (*Le Concours Médical*, 1880, p. 524; from *L'Union Méd.*), in a lecture on this subject, divides the various kinds of vomiting observed in phthisis into three classes. 1. Mechanical vomiting, resulting from disturbance of the respiratory nerves, and to which a certain amount of gastric or pharyngeal irritation may be added. 2. Gastric vomiting, properly so called. 3. Central or bulbar vomiting. The first variety is that met with at the beginning of the disease. The stomach being full, efforts at coughing give rise to vomiting, and the matters vomited are purely alimentary. This form of vomiting is more apt to occur in the evening. It may be stopped by putting an end to the cough; but this is not so easy a matter. An indication is to prevent the accumulation of glutinous mucus in the pharynx: this may done by means of detersive and alkaline gargles. When ulcers are present in the throat, astringents, tannin, alum, etc., are called for. If these are not sufficient, tincture of iodine or nitrate of silver may be used. Inhalations of belladona or datura are often employed in this form of affection, and M. Woilez recommends that the pharynx be touched with a solution of bromine, one part to six.

Gastric vomiting belongs to the middle period of the disease. The matters vomited are not purely alimentary; they are rather chymous, and transformed by diges-

tion. The cause of this form of vomiting lies in functional trouble of the gastric mucous membrane. Gastric vomiting is of various kinds; it may occur from apepsia, by diminution of the peptic secretion, with increase in the epithelial secretion. It is to be combated by bitters and tonics, and, if necessary, vomitives. In place of vomitives, which we are not often able to prescribe for phthisical patients, calming topical remedies, as chloral, chloroform, ether, may be given, the latter being especially efficacious, as it is peptic as well as calmative. Pepsin and diastase also render good service in these cases. Gastric vomiting from morbid increase in the quantity of secretion is a late symptom. It is best combated by absorbents, as magnesia or charcoal. Astringent powders are still more efficacious in causing absorption of the products of secretion and modifying the secreting surface; rhatany and columbo may be mentioned among these. Powdered opium is also very serviceable in these conditions. Gastric vomiting from spasm of the stomach calls for the administration of narcotics. Opium is first here; then chloral, ether, valerian, chloroform: all may be employed at one time or another. Seltzer water is also useful in this form of vomiting, and atomization of ether against the epigastrium and the back may also be used. Gastric vomiting from special irritation, due either to a deposit of tubercle or to simple irritation, is to be combated by regimen, milk-diet, alkalies, or iodide of potassium in small doses. Plasters of opium, etc., may also be used here. Revulsion may be employed with advantage, in the form of painting with tincture of iodine, vesication, etc. Tincture of iodine may be given in small doses by the stomach, with a view to its modifying action.

Central or bulbar vomiting in phthisis ordinarily occurs at an advanced stage of the disease. It is due to encephalic, especially bulbar, irritation, dependent upon meningeal exudation by neoplastic products. It should be remembered that a vascular change, as bulbar anæmia, like that produced by syncope or migraine or seasickness, may give rise to this form of vomiting. The matters vomited are chiefly mucus and bile. Numerous therapeutic agents may here be brought into play. Chloral is most important, since it will even neutralize the action of apomorphia. Chloroform, which calms the brain and excites the action of the stomach, is doubly useful. Opium and morphia act in the same way, as also bromide of potassium, which may be given in the dose of fifteen to twenty grains at the time of eating. Electricity in various forms has been employed. Nitrite of amyl inhaled to the amount of a few drops has recently proved successful in controlling the cerebral vomiting of phthisis.

Artificial Production of the Signs of Defloration in Young Infants.—At a recent meeting of the Académie de Médecine (*La France Méd.*, 1880, p. 692) Prof. Fournier read a paper on this subject, of which the conclusions were as follows:

1. A sufficient number of cases are on record to authorize the statement that simulation of defloration in young children is at times attempted. The facts are as follows. Artificial production in young children of vulvar lesions, designed to simulate defloration, together with the attribution of these attacks to some individual whom it is in the interest of the accuser to injure.

2. Clinically, these lesions can betray their cause only by some local peculiarity. But this is only accidental, and we do not know of any clinical features by which vulvar inflammation produced by attempts at defloration can be distinguished from one artificially produced for purposes of simulation.

3. The detection of such simulations must depend less on medical symptoms than on the signs of attitude, response, hesitation, contradiction on the part of the child, antecedents of the simulator, various circumstances of the case, etc.

4. It is important for the general safety of the profession and for the dignity of the art to ferret out the ruse and discover the truth. It is not merely right, it is a duty, to confound a criminal accusation and to save the honor, the liberty, and the interests of an innocent person.

5. It is also important, for the same reasons, that the physician should not give a certificate without requisition from due authority. Such a certificate should be confined to the description of the lesions observed, without any estimate of their etiology.

6. Various motives actuate simulators: usually, however, desire of pecuniary gain is the cause.

7. Vulvar inflammations of different kinds usually serve as the basis of imputations of defloration, and these are ordinarily justified to appearance by the allegations of the unconscious or the assertions of the depraved pseudo victim.

Treatment of Pyrosis.—M. Ory (*La France Méd.*, 1880, p. 700) prescribes, in connection with milk and vegetable diet, alkaline drinks. In addition, the following medicinal formula may be employed with advantage:

℞ Pulv. rhei, gr. clx;
Sodii bicarb., gr. xxx;
Syrupi simp., f℥iss;
Aq. menth. pip. ad f℥viij.—M.

Sig.—Tablespoonful twice to four times daily.

M. Ory finds the following powder very useful:

℞ Magnesii calcinat.,
Pulv. sacch. alb., āā ℥j;
Bismuthi subnitrat., ℥j;
Sodii bicarbonat., ℥ss.—M.

Fiat in chart. no. xl.

Sig.—One at the beginning of each meal.

Bouchardat regards the following powder as useful in pyrosis:

℞ Pulv. rhei, ℥iss;
Pulv. opii, gr. ij;
Pulv. magnesii calcinat., ℥iss.—M.

Fiat in chart. no. xv.

Sig.—One before dinner.

Erysipelas.—Tillmanns (*Deutsche Chirurgie; Cbl. f. Chirurgie*, 1880, p. 699), like Virchow, objects to the separation of the deep propagating forms of cellulitis from erysipelas. All forms of cellulitis, even to the acute purulent œdema of Pirogoff, are to be regarded as true erysipelas. In Tillmanns's view, erysipelas originates essentially in the propagation of inflammation, and it is of no essential importance for this view whether the process occurs in the skin or the subcutaneous or subfascial tissues, or spreads through the whole thickness of a limb. Naturally, erysipelas of the mucous membranes and the associated erysipelatous wandering pneumonia are included; while Tillmanns does not accept the primary erysipelas of parenchymatous organs, as described by English authors. Erysipelas is essentially a traumatic, infectious disease. In accordance with the now almost universally accepted view, Tillmanns denies its spontaneous occurrence. Under this head must be taken into consideration the fact that the wounded spot is frequently overlooked or healed, or the erysipelas may first show itself at some distance from the locality of the wound, even in the mucous membranes. In addition, the absorption of the poison through solutions of continuity in the intestinal tract, the lungs, the uterus, as also often in puerperal fever, which is by so many regarded as true erysipelas, must be considered.

The contagiousness of erysipelas, which is so universally received in England and is much disputed in Germany, Tillmanns regards as absolutely proved by both clinical and experimental facts. On the other hand, he expresses himself very cautiously respecting the morphological peculiarities of the erysipelas poison and its relationship to bacteria. At any rate, bacteria cannot be invariably found in every case of erysipelas in the inflamed locality. In spite of staining according to Koch's method, and illumination with Abbé's apparatus, bacteria could not be found by Tillmanns in certain cases, even when bits of tissue were cut from the living patient. In other cases, however, they were found in large quantity. He thinks that there may be bacterial and non-bacterial erysipelas.

In conclusion, Tillmanns passes in review the long catalogue of vaunted remedies. He himself recommends iron, with alcohol as a stimulant and antipyretic. Something may be hoped for from the subcutaneous injection of carbolic acid about the border of the affected part, in the earliest stages of erysipelas. Finally, he alludes to the curative influence of erysipelas in certain tumors, phagedænic ulcers, etc., and suggests its inoculation, *in desperate cases*, from erysipelatous bullæ and blood.

Phlegmonous Periostitis of the Vertebral Column.—An interesting case of this unusual affection was described by M. Poivier at a recent meeting of the Société Anatomique (*Le Progrès Médical*, 1880, p. 869). The patient, a boy of 14, was in the employ of a wine-merchant, and was exposed many times a day to sudden changes of temperature in descending into a damp cellar while in a heated condition. He did not get sufficient sleep, and, in addition, was growing very rapidly. When examined by Dr. Poivier, the patient had a pale, earthy complexion, with an expression of

suffering. He complained of severe pain in the lumbar region, causing him to cry out aloud if touched near this point. His skin was hot; pulse 100. He was constipated. Eight days previously, according to the patient's account, he had been working in the wine-cellar, when he suddenly experienced a sharp, piercing pain in the lumbar region. This gradually grew worse, until at the end of three days the boy had to take to his bed. From this time the fever came on, without chills, however. On examination, which had to be conducted under chloroform, on account of the severe pain which it caused, a swelling could be observed along the vertebral groove about the two last lumbar vertebræ and the sacrum. Deep fluctuation could be felt at one point, and an incision carried down through the periosteum gave exit to an ounce of pus. The vertebra was found bare. A drainage-tube was placed in position, and the patient placed upon nourishing food. His condition, however, became worse; the fever continued, but without chills; retention and incontinence of urine alternated, paraplegia ensued, and the patient sank and died at the end of four weeks from the beginning of the disease. The autopsy showed subperiosteal abscess with purulent infection, but without osseous change,—a true multilocular periostitis of the vertebral column.

Amyloid Degeneration.—Edward Bull (*Nordiskt Med. Arkiv; Cbl. f. Chir.*, 1880, p. 699), in a paper on Bright's disease, endeavors to show that amyloid degeneration is commoner than is generally supposed. He publishes a case of amyloid kidney, in which the time between the operation of the cause of the affection and the first appearance of albuminuria could be proved. This period was thirty hours. The patient, who was 22 years of age, fell ill of a severe phlegmon of the right lumbar region. At once, on November 12, 1878, an extensive abscess was opened, with antiseptic precautions. The urine had been examined regularly for albumen during some time previously, and on the day of the operation, with negative result. On the evening of November 13, however, traces of albumen were found, and this increased regularly in quantity. Death occurred on November 30. Post-mortem examination showed the left kidney pale, swollen, and with amyloid degeneration; the right kidney, which was in the neighborhood of the abscess, was atrophic, but showed no amyloid degeneration, nor did the liver or spleen. Since, then, says Bull, the entry of air to the purulent cavity was necessary to the amyloid degeneration, this cannot have occurred previously to the incision, this view being supported also by the fact that albumen was not in the urine, and also by the limited extent of the process. Bull finds his case pointing very strongly to the rapid development of amyloid degeneration, this agreeing with the fact that the kidneys, as a rule, are attacked by the degeneration at once, or at least very soon.

Organisms in the Viscera in Typhoid Fever.—Prof. C. J. Eberth, of Zurich (*Virchow's Archiv*, Bd. lxxxi. p. 58), has examined the lymphatic glands, spleen, characteristically affected parts of the intestine, and also the liver, kidneys, etc., with a view to discovering the character of the lower organisms said to be pathognomonic of typhoid fever. Of twenty-three cases examined, organisms were found in twelve,—twelve times in the lymphatic glands and six times in the spleen. They were also much more numerous in the lymphatics. Eberth does not regard these organisms as micrococci. They usually assume the rod-shape, and are about the size of the bacillæ found in decomposing blood, only with the difference that they usually take a narrow, oval, or stumpy spindle-shape rather than a cylindrical outline (pictures are given). They are slightly rounded at the end, not cut off sharp. In connection with these rods, small egg-shaped forms are met with, resembling micrococci. Undoubted spherococci were not observed. The peculiar delicate outline of these bodies serves to distinguish them from putrefaction bacillæ. They also contain one to three spore-like bodies, and do not stain so easily in methyl violet as the ordinary micrococci and bacillæ. Eberth gives several interesting facts regarding the comparative number of organisms found at different stages of typhoid, and concludes by asserting the probability that these stand in some relation to the essence of the disease.

Sudden Death from Pulmonary Embolism, after Reduction of a Luxation of the Femur, simulating Death by Chloroform.—A writer in the *Gazette Médicale de Strasburg* (cited by *Le Réveil*

Médical, 1880, p. 202) says we are too apt to place to the account of chloroform every sudden death occurring under narcosis. In a case reported, narcotism was produced by one-sixth grain of morphia and twenty drops of chloroform. The luxation having been reduced in six or seven minutes, the patient, a laborer of 50, suddenly blanched, pulse and respiration failed little by little, and death followed in a few minutes. The autopsy failed to reveal a single one of those symptoms which are usually found after death from chloroform narcosis. On the other hand, the greater branches of the pulmonary artery were almost completely obliterated by quite recent thrombi. The popliteal vein and the veins of the calf, which were decidedly dilated, contained thrombi of the same character. Adipose emboli were found in the finer branches of the pulmonary artery. The causes of death, as stated by the writer of the paper, were displacement of the thrombus of the popliteal vein by reposition and its embolism in the pulmonary artery, together with adipose embolism from injury to the soft parts in the operation. He thinks the surgeon should examine for thrombi, and when these are present must regard the luxation as irreducible.

Paralysis of the Sphincter Ani, following Labor, successfully treated by Means of Interstitial Injections of Ergotin.—Dr. Larger (*Bull. Gén. de Thérap.*, October, 1880, p. 358) had under his care a young woman whom he safely delivered, by means of the forceps, without notable laceration of the perineum. He lost sight of her; but six months later she came to him complaining of an entire incontinence of fæces, dating from her accouchement. The urine was under normal control. On examination, the fourchette was found intact. The anus appeared to be firmly closed, but digital examination showed it easily permeable and giving absolutely no sensation of stricture. It was evidently a case of paralysis of the sphincter, caused by compression from the fœtal head. Dr. Larger prescribed cold rectal and anal douches and one or two suppositories daily, each composed of two scruples of butter of cacao and fifteen grains of Bonjean's ergotin. This treatment failing, interstitial injections into the sphincter ani of a syringeful of ten-per-cent. solution of ergotin were employed. The syringe containing fifteen minims of solution (in laurel-water), 1.6 grains of ergotin were thus injected at once. It was found less painful, later, to inject the amount at three points. Five injections made at intervals of two days sufficed for a perfect cure.

Experimental Researches on the Biological Action of Picrotoxin.—Prof. Chirone and Dr. Testa (*Jour. des Sci. Méd.*, 1880, p. 516; from *Ann. Univers. di Med. e Chir.*) have arrived at the following conclusions. 1. Picrotoxin may give rise to true attacks of epilepsy. 2. Picrotoxinic epilepsy manifests itself independently of the psycho-motor centres: it shows itself in a more intense form, indeed, when these centres have been removed by vivisection. 3. Picrotoxin first exerts its influence on the bulb and on the apparatus of conjunction between the cerebral centres and the spinal centres. In this respect it resembles strychnia and is opposed to cinchonidin. 4. Picrotoxin arouses the functional antagonism which exists between the psycho-motor centres of the bulb and the apparatus of conjunction. 5. Convulsions of the members caused by picrotoxin depend in the first place upon the influence which it exerts upon the bulb and which is propagated by the spinal cord; and, in the second place, upon direct action on the spinal centres. 6. (Omitted.) 7. Epilepsy of cerebral origin may be obtained artificially by cinchonidin, and epilepsy of spinal origin by picrotoxin,—the former occurring provided the psycho-motor centres are not removed, the latter becoming more intense if they have been removed.

Treatment of Acute Articular Rheumatism by Subcutaneous Injections of Ergotin.—Dr. Chevallereau read, at a recent meeting of the Société Clinique de Paris (*La France Méd.*, 1880, p. 724), a communication on the use of ergot in acute articular rheumatism. Having been called to see a little girl suffering with prolapse of the rectum, in whom he desired to use hypodermic injections of ergotin, he found her so crippled with rheumatism that she could hardly be turned on her side to permit the injection to be made. Forty centigrammes of the *solution Yvon* of ergotin having been administered by the hypodermic syringe, next day the rectum continued in position, and, to the doctor's surprise, the rheumatism was much better, and the patient recovered without

further medication. A little later, being called in to see a young lady of twenty-three, who was suffering with severe acute articular rheumatism, confined to the joints of the right side, fifty grammes of the solution were injected, with the result of marked amelioration. The injection being repeated three days later, the patient was completely cured within ten days. This treatment was subsequently employed in a number of other cases, and always with success. The cases were not accompanied by high fever.

Treatment of Virulent Ulcers.—At a recent meeting of the Société de Chirurgie (*Le Progrès Méd.*, 1880, p. 852) Dr. Marc Sée spoke of the resistance which certain virulent ulcers, as chancroids, chancres of the prepuce marked by symptomatic phimosis, chancroid buboes, and phagedænic ulcers, oppose to treatment, months often being required to effect a cure. Dr. Sée operates on these ulcers by scarification with the dermal curette: he scrapes away the pulpy covering of the ulcer, not ceasing until he reaches healthy tissue, and going into every hole and corner. If the case is one of phimosis, symptomatic of chancroid, Dr. Sée frees the prepuce by means of the thermo-cautery and operates as above. But the scraping must be done with the minutest care: the least particle left behind may cause the repullulation of the entire growth. After scraping, the surface thus laid bare is cauterized lightly with the thermo-cautery, after which antiseptic dressings are applied. The operation is painful, and should be done under anæsthetics, but the results are excellent. There is next to no inflammation: at the end of two or three days the ulcer is transformed into a simple wound, which heals with a linear cicatrix in two or three weeks.

A Hitherto Undescribed Nematode found in the Human Peritoneum.—Dr. Victor Babesiu describes, in *Virchow's Archiv* (1880, p. 158), the case of a woman dissected under his direction, in whose gastro-lienal ligament was found encapsuled a worm, fourteen centimetres in length and thirty-five millimetres in thickness, twisted into a spiral. The worm was of even diameter throughout, with pointed head and tail. It was marked by fine cross-lines, with somewhat deeper longitudinal markings. The oral opening was terminal, small, and round; anus almost terminal. Six rather distinct subcutaneous dark-brown oval papillæ. A small, indistinct, excretory opening, probably belonging to some excretory organ, near the mouth. Papillary terminal growths at the point of the short, straight tail; near this a gland. Two thick, twisted, uterine tubes, occupying the greater part of the corporal cavity, with immature, small, oval ova, without shells. A thin vaginal opening just behind the mouth. Dr. Babesiu calls his newly-found treasure *filaria peritonæi hominis*. Pictures of the worm are given.

Giant-Cells in Tubercle.—At a recent meeting of the Société de Biologie (*Le Progrès Médical*, 1880, p. 866) Dr. Cornil communicated a new anatomical discovery relative to the giant-cells which have been studied by histologists during the past seven years. This relates to the impregnation of these cells by particles of carbon or pigmentary matter in the case of old or fibrous tuberculosis. When the tubercular granulations are transformed, we find, on examining them under the microscope, a mass of giant-cells impregnated with pigment. This pigment, which arises from carbonaceous particles or from the coloring-matter of the blood, gives great solidity to the diseased tissue, and, as a result, lengthens the life of the tuberculous patient.

Purgative for Consumptives.—Dr. Ferraud recommends the following prescription in the constipation of phthisis:

℞ Magnesiæ calcinat., ʒss ad ʒj;
Mannæ, ʒj ad ʒij.—M.

To be taken in a cup of tea.

When this is mixed with honey it makes an agreeable electuary:

℞ Mannæ, ʒj;
Magnesiæ calcinat., ʒss;
Mellis, ʒj.—M.

This may be taken in tablespoonful doses in the morning.

Value of Ammoniacal Salts in Diabetes.—Dr. Paul Guttmann (*Bull. Gén. de Thérap.*, 1880, p. 431; from *Berliner Klin. Wochens.*), in a case of diabetes, gave for five days no medication. Quantity of sugar, 231.65 grammes. For thirty-one days administration of ammoniacal salts, 223.11 grammes of sugar daily. Then cessation of treatment for thirty-one days. Amount of sugar, 173.19 grammes per diem; thus showing that, so far from diminishing the amount of sugar in the urine, the salts of ammonia actually increase it.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, JANUARY 1, 1881.

EDITORIAL.

MEDICAL LEGISLATION.

SOME weeks since, in an editorial, we called attention to the need of an efficient medical registration law in this State, and urged the Philadelphia County Medical Society to take the matter in hand. We were not aware at the time that there is a committee of the State Society which is endeavoring to procure the passage of a proper law. We still believe that a committee appointed by the County Society to co-operate with the State Society would, if properly selected, greatly increase the chances of any bill which may be offered at the coming session of the Legislature. The evidence as to the need of the enforcement of such a law needs no discussion, but it is not so indisputable that passage of the bill by the Legislature would be followed by enforcement. It is doubtless true, as asserted by Dr. S. E. Chaillé, of New Orleans, that in 1851 eleven States had such laws, and have since repealed them. The United States contains, however, a very different community from what it did in 1851. A stock argument against reform in medical education was that it had been tried, and failed because it was supported neither by the doctors nor by the laity. Yet the reform has been successful beyond the hopes of the most sanguine of those who struggled for it. It may be that the people are now sufficiently advanced to understand and profit by wisdom which fell years ago upon dull ears. Laws regulating the profession work successfully everywhere else in the world, and as human nature is, in the main, of similar character, the time must come when the proprieties and necessities of the present subject will be recognized. It is certainly still undecided whether that day has arrived; but the drift of the evidence at hand seems to show that the times are ripe.

In Illinois the registry law appears to be exercising a very good influence. In the first year the State Board of Health issued certificates to three thousand seven hundred and eighty-six graduates; to non-graduates based upon affidavits of ten or more years' practice in the State previous to July 1, 1877, and recommendations of reputable physicians, eight hundred and eighty-five; to non-graduates on examination, one hundred and thirty-six: total, four thousand eight hundred and seven. According to the last report of the board, in 1880 there are one thousand less practitioners of all kinds in the State than in 1877; one thousand seven hundred and fifty less unqualified practitioners: also, five hundred and fifty persons, who in 1877 were unqualified to practise, have since, by study in the schools, qualified themselves to practise in accordance with the law. The diplomas of two hundred and ten schools have been recognized, and four hundred fraudulent diplomas from Philadelphia and other cities refused. Certificates have been issued to five hundred and fifty midwives, and three hundred unqualified have ceased to practise.

The work thus accomplished is certainly a good one, and there are evidences that the Illinois Board of Health are intending to do more than they yet have done. We believe it has been judicially decided that the law under which they are acting gives them the sole right to decide which colleges shall be considered to be of such a character that their diplomas shall give the right to practise. We have seen a circular asking for an expression of opinion as to what requirements for graduation by a medical school are the least that the board can recognize. It may be that

some of our Eastern colleges will yet find that Illinois rejects their diplomas.

In Massachusetts, last winter, an attempt was made, by a branch of the American Social Science Association, to get a law passed which required all physicians entering upon the practice of medicine to pass an examination before a State examining board. Petitions were signed very numerously by men of the highest standing in the community having no direct connection with the medical profession, but numerous counter-petitions were also offered, and the proposed law was, after much discussion, rejected. It is plain that the older States are not as yet prepared for a stringent medical-license law; there are too many vested interests opposing, and the general public is not yet sufficiently informed: but the time will come.

We do believe that public opinion has matured sufficiently to render the obtaining of a simple registration act easy, and we believe also that a properly-constructed act would be obeyed. Fines and penalties are good in their way, but a more powerful lever in obtaining obedience would be a clause disallowing claims for medical services by unregistered physicians. If it were known that no professional bill could be collected in court by an unregistered physician, and that executors who paid such bills were personally liable to the heirs and legatees for the amount thus paid, we think the registry lists would soon be filled. Let us not attempt too much this winter, but do let us attempt to get a concise, carefully-drawn registration act. If the attempt be made with wisdom and energy, it must succeed.

CARE FOR INCURABLES.

WE are authorized by Dr. Pepper, chairman of the Finance Committee of the University Hospital, to state that Mr. Henry C. Gibson has offered to erect a new wing for incurables, in connection with the University Hospital, at a cost of about fifty thousand dollars. The plans are being drawn by Mr. Hewitt, the well-known architect, and will be submitted to the examination of a committee of experts in hospital construction, so as to insure the highest degree of perfection in all details. This munificent gift assures the immediate completion of this new department, the need of which has been so urgently felt.

It will have accommodation for about one hundred beds, and will thus afford an incalculable amount of relief to poor sufferers from chronic diseases who cannot afford suitable hospital treatment elsewhere.

The proceeds of the charity ball to be given in behalf of this new department of the University Hospital will now be devoted to its endowment fund, which already amounts to some eighty thousand dollars. Further contributions towards the endowment fund are, however, greatly needed, since it will require the interest on an investment of five hundred thousand dollars to support the entire number of free beds (one hundred) that will be contained in the new building.

This extension was needed because the present accommodations of the University Hospital do not admit of the thorough classification of the cases which will be practicable as soon as the new wing is occupied. It is designed that it shall be ready for patients by October 1, 1881.

It is earnestly to be hoped that the example thus set by Mr. Gibson, of giving during his lifetime a large sum of money to accomplish a definite and greatly-needed object, will soon be followed by others.

All taxes entailed upon charitable bequests are thus avoided, the exact accomplishment of the donor's wish and intentions is secured, and great enterprises are strengthened at most critical moments in the most conclusive manner. We note with pleasure, in this connection, the recent

munificent gift of Mr. Temple to the Academy of Fine Arts, and of Mr. I. W. Williamson to various institutions, and of Mr. John Welsh in founding the professorship in the University, which bears his honored name; but there is still ample opportunity and most urgent need for similar large gifts, especially to this latter institution (the University of Pennsylvania), to supply the advantages which are imperatively necessary for its proper expansion and full prosperity.

A library-building of spacious proportions, to contain the large collection of the University, is greatly needed; but even more importunate is the need for the endowment of professorships and scholarships, which would encourage science and learning and relieve the financial needs of this great educational institution.

DEATH DURING ETHERIZATION.

IN the *Cincinnati Lancet* of October 30 there is a long account of a death which recently took place during the administration of ether in that city, and in the *Boston Medical and Surgical Journal* for December 2 is an editorial discussion of the subject. It seems to us that our New England contemporary is correct in believing that the best chance was not given to the patient. The woman was exceedingly feeble, had been operated upon twice before, and, according to some statements, had septicæmia. When it was first noticed that anything was wrong, both respiratory movements and pulse had ceased. Surely there must have been some warning which a trained expectant eye might have noticed before things came to this pass. An irregular respiration, a pallid face, or a failing pulse ought to have given notice of the danger.

Then the means adopted for resuscitation are not above criticism. Artificial respiration was not maintained as steadily and persistently as one would expect; and the amount of stimulants given was simply extraordinary. One and a half pints of brandy were administered hypodermically and by the rectum during the two and one-half hours which the woman lived after the removal of the anæsthetic.

It must be recollected that the patient was dying largely, if not altogether, through narcotism of the respiratory centres. Alcohol is not a stimulant to these centres, but a paralyzant; and it was given to a narcotized woman in an amount sufficient to endanger fatal narcotism in a healthy woman. Ether and alcohol act almost exactly alike upon the nervous system; and to give alcohol in such a case is almost the same as giving more ether. The correct treatment is to be found in the hypodermic use of atropia as a respiratory stimulant, and, if a cardiac stimulant is also needed, the injection into a vein or under the skin of solution of ammonia and tincture of digitalis.

Of course, it is easy to criticise from a distance, and the position here taken may not to others seem correct; but we are not willing that the case under consideration should render the profession afraid of ether as an anæsthetic without its being clearly pointed out that it is far from certain that ether, and not alcohol, was the final cause of the death.

HOSPITAL STEWARDS, U.S.A.

SOME year or two since, we called attention to the present status of hospital stewards in the United States Army, with their unjustly low rank and compensation. Congress has hitherto afforded no relief to the just complaints of those of whom so much is required and to whom so little is given.

We trust that success will crown the efforts now being made for higher recognition of services. We see no reason why, if under the name of apothecary a man in the navy receives sixty dollars a

month, his compeer in the army for exactly similar services should be paid thirty dollars.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

A CONVERSATIONAL meeting of the Society was held at the hall of the College of Physicians, Philadelphia, October 27, 1880, Dr. Albert H. Smith, President of the Society, in the chair, at which Dr. Carl Seiler read a paper on the "Judicious Use of the Microscope in Medical Practice" (see page 193), and exhibited a mechanical microtome and several microscopic specimens. On motion, the thanks of the Society were tendered to Dr. Seiler for his paper.

Dr. E. O. Shakespeare said that he had been much interested in the paper, and thought that it discussed a matter of great importance to the student of medicine of the present day, and very practically useful to the busy practitioner, especially since the lecturer has shown that the preparations can be made in a very short space of time and in a very satisfactory manner. He felt that from his own experience he could endorse everything that had been said in the paper.

He wished to say a word in favor of the machine just exhibited to the Society for cutting sections, which he regarded as perhaps the best one of the kind ever devised for those who have not much experience in making sections with the knife, and also for making large sections of the brain and other organs, where large areas must be observed in order to trace the morbid process. He had seen beginners in microscopy make sections with this machine that were sufficiently thin for examination by high powers of the microscope.

Dr. Seiler said that all that he had intended to demonstrate was the feasibility of making sections and the use of the microscope by the busy practitioner. The cabinet which he mentioned was made by Professor Christopher Johnson, a busy practitioner of Baltimore, who has the best collection of any in the country, except Woodward's at Washington. Dr. Johnson follows the plan laid down in the paper exactly, and thinks that this method is the best one. It may seem expensive, on account of the alcohol, but really little is wasted. It is only necessary every two or three weeks to throw out the weakest solution and, degrading the rest, fill up No. 1 with ninety-five per cent. alcohol.

In concluding, the lecturer stated as an important point that the object in making microscopical preparations would not be attained unless the practitioner knew what he saw and what to look for. This requires hard study; and he was very glad to say that the different medical colleges all over the country are now introducing obligatory courses on histology and morbid anatomy. The student will therefore be in the future better able to carry on microscopical examinations with such practical hints as are to be found in the paper of the evening, and thus continue his microscopical work in conjunction with his daily practice.

Dr. H. A. Wilson read a paper on "A New Form of Remedies for Hypodermic Use" (see page 195).

Dr. M. O'Hara approved the suggestion, as he had heard it stated that powders of morphia lose their power after being carried for some time.

Dr. A. L. A. Toboldt suggested tartaric acid as an excipient, instead of sodium chloride, as it renders alkaloids more soluble.

Dr. Charles H. Thomas had been carrying morphia powders for many years, and never had any difficulty in keeping them, nor any evidence of failure. The method of Dr. Wilson, however, is an admirable one. The sodium chloride is not objectionable, as its solution is even less irritating to the tissues than pure water. This form has a marked advantage over the powders in point of solubility, especially if they have been kept for any length of time.

Dr. W. R. D. Blackwood had been in the habit of using morphia powders for hypodermic use for the last fifteen years, and was satisfied that morphia does not deteriorate at all. Moreover, in getting powders from a druggist, it is impossible to tell how long he has had the morphia on hand before dispensing it. In a case of intestinal colic he had made this experiment purposely, and could detect no difference whatever between fresh morphia and the old powders. His method is to carry morphia in one-quarter grain powders, which may be divided or increased as requisite. The syringe is filled with water, which is then ejected into a spoon, the powder dissolved and drawn again into the syringe and deposited beneath the skin. In this way the solution is definite in strength. No more is made than is necessary at the time, and penicillum is avoided. Other agents may be used in the same way. The pellets exhibited will doubtless fulfil a good purpose. During the last few years gelatin disks have appeared, which are valuable for their portability and accuracy in measuring the dose in hypodermic and ophthalmic medication.

Dr. John B. Roberts saw a special advantage in these pellets in hospital practice, where nurses who may be careless have to administer the remedy. The hypodermic syringes are often incorrectly graduated. If solutions are preferred, however, there should be no difficulty in preventing the fungous growth by adding tartaric acid to them; but the

present form has especial advantages in its convenience, easy solubility, and accuracy of dose.

Dr. John H. Packard said that for years he had been using powders of the pure alkaloid, instead of the sulphate of morphia. He never had any difficulty in dissolving them. He obtained them in quantities of fifty (half-grain papers), but never noticed any deterioration or change, even after keeping them for years. He was satisfied that there is much inaccuracy in graduating syringes. He preferred the powders, using hot water, and taking the whole, a half, or any part of one of the papers, according to the amount he desired to give, discharging the water upon the powder, and then drawing it up, performing this several times. He has had no difficulty in obtaining a clear solution. He does not, however, use the hypodermic syringe as frequently at present as he formerly did, on account of the strong objections raised against it by persons whose opinion he respects. The disagreeable effects of morphia can generally be overcome by taking a cup of strong coffee.

Dr. Charles B. Nancrede spoke of a case that was very much affected by opium, where the headache and general distress were relieved by half a drachm of the fluid extract of ergot.

Dr. H. A. Wilson, in closing the debate, said that he would like these hypodermic pellets to be submitted to actual trial by the profession, in order to determine whether they are of any real value. He had experimented with different excipients upon his own person, and had found sugar and other substances are slightly irritating, but table-salt is not. The pills are accurately weighed and lightly compressed by Mr. Wolff, who had agreed to furnish them at a cost not greater than that of the powders.

For keeping several varieties in the hypodermic pocket-case, he recommended short tubes with a diaphragm in their middle and containing a different kind in each end.

On motion, a vote of thanks was tendered to Dr. Wilson for his interesting communication.

SANGUIS BOVINIS EXSICCATUS.

Dr. William H. Pancoast presented a specimen of a new form of condensed nourishment, consisting of dried bullock's-blood, prepared at the Jersey City stock-yards, under the supervision of Dr. F. E. Stewart, for Messrs. Parke, Davis & Co. This substance is given in place of beef-tea, and similar articles for the sick, mixed simply with water (℥j to ℨj), or, better, with brandy and glycerin. It may be given in nutrient enemata as well as by the mouth.

Dr. Stewart, being present, was, on motion, invited to explain the process of preparing the blood. He said that dried blood had been used extensively in New York, and was now under trial at the Blockley Hospital, Philadelphia. The process of preparing the blood is very simple. The fresh blood is obtained by bleeding the animal to death, the fibrin is rapidly removed, and the rest of the blood is exposed in shallow vessels to a temperature not above 110° to prevent coagulation of the albumen and its devitalization by excessive heat. The dried blood is afterwards coarsely broken up and packed in air-tight cans. It is important that the animals should be bled to death, for if they die of apnœa the product will be less fit for medical purposes. He commended particularly the form of administration in an elixir (℥ij in ℨvj).

The thanks of the Society were tendered to Dr. Stewart for his explanation. F. W.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, NOVEMBER 11, 1880.

THE VICE-PRESIDENT, Dr. JAMES TYSON, in the chair.

Cancer of the lower portion of the œsophagus and the stomach. Presented by Dr. E. T. BRUEN.

THE specimen affords an example of cancer of the œsophagus at its termination in the stomach, and the growth has involved the tissue of the cardiac end of the stomach, along its greater curvature more especially. The mucous membrane of the stomach is still intact, although it bulges inward from the presence of the growth, the masses of which can be felt as large as though two or three walnuts were encased beneath its folds. The spleen is found tightly bound to the stomach, the left lobe of the liver as well, and the lung was also fixed. This is shown by the fragments here exhibited. Almost the natural lumen of the œsophagus is preserved. I could introduce my finger with ease before I opened the tube. This I had inferred before death, because I could introduce a fair-sized bougie into the stomach, and this was several times accomplished during life.

All the other tissues of the body were found at the autopsy to be normal. The interesting clinical facts connected with this case can be briefly stated as follows:

1st. There was no evidence of previous cancer in the family history of the patient.

2d. Although dyspepsia and failing strength had been noticed for six months before the case came under my care, yet all this time the patient was not prevented from attending to her occupation as washerwoman, and she did not apply for treatment till about six weeks before her death, when obstinate, uncontrollable vomiting rendered her unable to work, and she entered the hospital. The material vomited never contained blood, and we now recognize that there is no ulceration of the mucous membrane of the stomach.

3d. The only dulness was furnished in the normal splenic area, and the tumor was situated so high in the left hypochondrium that palpation was equally futile: so no assistance was furnished by physical examination.

4th. Much flesh was lost during the six weeks of vomiting; but little had been lost before, although the patient admitted that she was conscious of failing strength for the six months previous to admission to the house.

5th. The age of the patient was 58 years.

6th. There was some albumen in the urine, and its specific gravity was low (1009), and the question, "Can the vomiting be symptomatic of deficient renal activity due to cirrhotic changes?" was entertained. The hypothesis was, however, not supported by any hypertrophy of the heart or evidence of increased vascular tension.

7th. In forming a diagnosis in the absence of positive symptoms, I could only infer that cancer existed.

8th. The adhesions presented by this specimen are of interest in studying cases of cancer of the stomach. I have now a case in my wards in which adhesions have apparently been formed between the pyloric end of the stomach and the under surface of the liver. Thus a possibility of cancer of the left lobe of the liver is simulated. In such a case the pylorus, weighted by the growth, is sometimes quite movable, and can thus be distinguished from a cancer of the liver, and yet sometimes the adhesions may prevent much movement: so in such a case it can cause pressure on the aorta, and murmur which is influenced by position.

I should like to pursue this subject, but believe that this is not in conformity with the scope of this Society.

Dr. TYSON said that the case was interesting to him chiefly from the fact that the carcinomatous growth projected outwards, instead of encroaching upon the lumen of the stomach, as is usually the case.

Dr. HENRY remarked that the case just reported opened up a very nice question in diagnosis. It will be recalled that the urine was of low specific gravity—1009—and contained albumen, but its diurnal amount was not mentioned. This abnormal condition of the urine coexisting with obstinate vomiting, it was natural, in the absence of *signs* of gastric disease, to attribute the condition of the patient to a diseased state of the kidneys; but Dr. Bruen was led, chiefly, he believed, from the extremely obstinate character of the vomiting, to suspect, and, as Dr. Henry understood him, to diagnosticate, a carcinoma of the cardiac end of the stomach. Bright's disease had been excluded on account of the absence of cardiac hypertrophy and increased vascular tension. Cardiac hypertrophy, although the rule in cases of contracted kidney, is by no means invariably met with. For its development a good state of nutrition is essential. This fact was illustrated by a specimen of extreme cirrhotic atrophy of the kidney, associated with phthisis, recently presented by Dr. Henry to the Society. There was no cardiac hypertrophy, the low state of the patient's nutrition forbidding this compensatory action on the part of nature. On the contrary, the heart was somewhat below the average normal size, of flabby consistence, and somewhat fatty. Dr. Henry did not recollect whether Dr. Bruen had made any particular mention of the post-mortem appearances of the heart and kidneys in the case just reported.

In reply to Dr. Henry, Dr. BRUEN said that the statement that the other tissues and organs were normal had been overlooked: this of course included the condition of the cardiac muscle. Dr. Bruen did not think Dr. Henry's case of phthisis with granular kidney, yet without cardiac hypertrophy, a parallel case with that under discussion. In his case the general nutrition had been good up to within a few weeks of the death of the patient, while Dr. Henry's was a case of chronic wasting disease.

Hypertrophy of the heart with accentuation of the sounds, especially the second, is recognized by Dickinson and others as most frequently associated with renal fibrosis. In his clinical experience these facts were cardinal points of diagnosis. If, as occasionally happens, the patient suffers from wasting disease, these conditions may not be present, but even the dilatation of the heart is probable. He considered his point well taken,—viz., that the absence of accentuated sounds and cardiac hypertrophy excluded renal alteration, for the wasting had been rapid, not chronic.

Cancerous tumor of the mediastinal glands and of the lung. Presented by Dr. EDWARD T. BRUEN.

I cannot present this specimen with the clinical study which its importance demands, because the patient died the day after I resumed charge of my wards in Blockley, and was almost moribund when I saw him. The immediate cause of death seemed to be dyspnœa from the presence of a large right-sided pleural effusion. Tapping of the chest was accomplished, and three pints of liquid were withdrawn, but the patient died a few hours afterwards.

Post-mortem.—The body was fairly nourished. Rigor mortis marked. On removing the sternum, the large mass now exhibited was found filling the entire mediastinum and involving the cervical glands. The cervical glands presented a mass as large as a small bunch of grapes, reaching up some distance above the clavicles on both sides. No glandular enlargements were noted elsewhere. The costal pleura was healthy, but many nodules were scattered through the right lung and pulmonary pleura. Elsewhere all the tissues and organs were notably normal. I think during

life the dulness over the mediastinum, contrasted with the flatness over the effusion, and the presence of the enlarged glands in the neck, would have been helpful aids to establish the diagnosis. One of the earliest symptoms in these cases has been pain, sometimes localized, sometimes radiating down the chest or down the arms. This is a really fundamental symptom, and is useful before percussion can be employed. The difficulty confronted in some cases is to distinguish this pain from that caused by commencing aneurism before the aneurism is attested by a murmur. This suggestion applies especially to that form of aneurism known as dilatation of the aorta. The effusion must have taken place in consequence of inflammation of the pleura, since many shreds of lymph were found floating in the fluid; but the pressure from these enlarged glands might have produced the same effect. I have under observation a case of adenia, or enlargement of the bronchial and cervical glands, without evidence of corpuscular blood-change or scrofula or syphilis, occurring in a young man about thirty years of age. In this case, although the interference with the intrathoracic circulation has caused a general enlargement of the superficial veins of the body, there is no pleural effusion. I think that the pleural effusions in cases of mediastinal cancer mean oftenest a secondary cancer of the pleuræ. A microscopic examination of this growth showed its structure to be that of a carcinoma of the medullary variety. A section prepared by Dr. Formad is ready for your inspection.

Aneurism of the innominate artery. Presented by Dr. J. H. MUSSER.

As Medical Registrar at the Hospital of the University, I had the opportunity of observing the patient from whom the specimens were taken, and through the courtesy of Prof. Pepper I am allowed to present them to you.

Admitted to the hospital August 1, 1880, the patient was 34 years of age, a native of Wales, and a resident of Dauphin county, Pennsylvania. For twelve years past his occupation has been that of a miner, working hard and exposed to all its hardships. A constantly moderate drinker, at times he would spree. Always used tobacco moderately. Eleven years ago had a sore on the penis, said to be a chancre. A year afterwards he had subacute rheumatism, lasting a year. No other symptoms of syphilis. Save an attack of pneumonia, he has been perfectly healthy. Family history, so far as can be ascertained, good.

While working in the mines when they were on fire, in January, 1879, he caught cold, and thenceforth suffered from shortness of breath, stiffness in the neck, and a "twitching" sensation in the larynx; the latter symptom occurring at intervals, the others being constant, though variable in degree. In January, 1880, he applied to a physician for treatment. At that time he was said to have bronchitis and chronic laryngitis. Early in July he had an attack of what was said to be œdema of the larynx. A few days afterwards a "lump" broke in the throat, with the discharge of purulent matter. Since then he has expectorated blood. After the breaking of the "lump" the dyspnœa was relieved. During the year he has lost flesh and strength. His appetite has been poor, and he has had night-sweats. At present he is a moderately stout man, with a large frame, weighing one hundred and sixty-two pounds, face slightly flushed, not anæmic, skin warm and moist, fingers not clubbed, dark eyes, large eyelashes, hair in abundance, dark, teeth good, natural countenance, tongue coated and flabby, pharynx slightly congested, no blood on it or point of hemorrhage, tonsils and half-arches normal, no dyspeptic symptoms, bowels regular.

Laryngoscopic examination by Dr. McCracken, in charge of throat department, revealed only slight infiltration of the tissues about the glottis, absence of paralysis of either vocal cord, in the trachea at the right a mass of blood. Did not notice any occlusion of the tube. At the larynx there is a hoarse, coarse inspiratory sound; the sound is transmitted all over the thorax, so that it is almost impossible to hear the respiratory murmur. The percussion-note at the left apex was a little higher-pitched than normal. Expansion of the apex and of the whole lung was poor. Constant cough; continuous expectoration of bright arterial blood. Pulse 70, heart normal, special senses and mental faculties unimpaired.

Further note.—For three days the hemorrhage continued; on the third day death resulted from a sudden enormous hemorrhage.

Post-mortem.—All the tissues and organs, except the lungs, exsanguious. The organs were healthy. The lungs, air-cells, bronchials, and bronchii filled with arterial blood. On opening the thorax, the heart and lungs were in their normal positions. The inner sides of sternum and ribs were not pressed upon. The innominate veins were normal in position and size. The trachea was not noticeably deflected. The ascending and transverse portions of the aorta were dilated, the upper part being more expanded. The innominate artery was dilated, the dilated mouth being continuous with the dilated aorta. The expansion of the innominate was not uniform; anteriorly there were one or two sacs, posteriorly a large sac pressed against, became united to and ulcerated into the trachea. The right carotid arose from the common expansion of the aorta and innominate, the subclavian one and a half inches from the carotid, above and at the right of the mass. The dilated portions of the aorta were atheromatous. Within the aneurism, completely filling it, was a large, moderately firm, pale-red clot;

left ventricle of heart slightly hypertrophied; valves normal. I should have mentioned that the pneumogastric nerve was seemingly much pressed upon, as the cords of the plexus were quite flattened where they passed over the mass. The recurrent laryngeal was not pressed on.

The diagnosis was not made before death. It was thought to be incipient phthisis with tumor. I thought there must be something causing pressure. I had no opportunity for a second examination. Had more careful percussion been performed, the dilated aorta and the aneurism could probably have been defined. Comparison of the radial pulses might have given a clue. There was no projection, no pulsation, neither thrill nor murmur, nor were there any external evidences of pressure within.

The continuous dyspnœa, persistent stiffness of the neck at the root, with soreness, and the "twitching" sensation, are worthy of note. The July attack was due to œdema probably, and the "breaking of the lump" to the completion of the ulceration, hemorrhage being prevented by the protruding clot.

I am positive that the circulation of the right arm was not interfered with nor the pulse much altered, as it was at that arm I noted the pulse.

Dr. BRUEN had for some time past in the study of aneurism taken as fundamental evidence for its diagnosis two series of facts,—viz., 1st, the sequence of disease of the arterial coats upon some prior cause capable of producing inflammation of the arterial coats; 2d, symptoms of pressure. The pressure-symptoms seem to have been overlooked in this case. It was indeed true that other diseases besides aneurism might give similar pressure-symptoms; but as a rule they could be differentiated easily. He knew of a case in which an erroneous diagnosis of dilated aorta had been made, when fifteen months afterwards mediastinal cancer was undoubted; cases of this sort are exceptional.

Auscultation and palpation were not as important, in his estimation, as the above points, for a deposition of laminated clot might prevent murmur, thrill, or pulsation. In proof of this, he would recall to the remembrance of the Society a case reported by him to this Society about one year ago,* in which case multiple aneurisms had been found after death, completely filled with laminated clot, so that no blood could enter them. During life, murmurs could be elicited only by pressing the most superficial tumors upon the aorta, thus obstructing its lumen. In these cases the pressure-symptoms, aided by percussion, were most interesting.

Two cases of abdominal tumor which he had lately seen presented the same symptoms as regards murmur and palpation signs of tumor. In one there was a specific history, and a peculiar pain relieved by a position of the body prone upon the face. In the other there is no history of syphilis, alcoholism, or renal disease, nor is there the significant pain relieved by change of posture.

In one of these cases the diagnosis was verified by autopsy, revealing rupture of an aneurismal sac; the other, Dr. Bruen believed, will be demonstrated at an autopsy to be carcinoma, probably of the stomach, and the diagnosis was made by attention to his cardinal points. In abdominal carcinoma adhesions might form, which might so fix the tumor as to cause a murmur not affected by change of position.

Dr. MUSSER, in reply to Dr. Bruen, called attention to the fact that he had stated in his notes that perhaps more careful percussion would have detected the tumor and the dilated vessel. Neither, however, encroached upon the lung, as that organ was most carefully examined. The anterior view of the tumor was small, dilatation of the aorta not very great, so that the area of dulness would certainly have been small. Pressure-symptoms were noted, but the sudden death of the patient prevented the cause from being investigated fully. The stridulous respiration, its seat loudest in the larynx, the paroxysmal attacks of dyspnœa, finally growing constant, were due, probably, to the stricture of the trachea.† Œdema of the glottis might have been produced by obstruction to the venous return from pressure. The flattened condition of the right pneumogastric nerve should have caused some more constant symptoms. The paroxysms of dyspnœa might have been thus produced.

Dr. BRUEN asked if the dyspnœa was spasmodic or constant.

Dr. MUSSER replied that at first it was spasmodic, but latterly it was very slight, but constant.

Dr. BRUEN referred to a case of spasmodic dyspnœa resembling asthma, which was due to aneurism. He had already this evening referred to this case. The aneurismal growth had compressed the pneumogastrics and trachea, and produced the same whistling respiration noted in Dr. Musser's case, and horrible asthmatic seizures, although there was always some dyspnœa. In Dr. Musser's case these symptoms would probably have become more marked as the tumor enlarged.

Dr. B. also wished the Society to note that he had also read before them a paper (afterwards published in the *Medical Times* of May last) on mitral obstruction, in which he had claimed that murmurs indicative of mitral obstruction were heard with maximum intensity over the auricle, following the or-

* Meeting of October 23, 1879; also Medical Times for October 11 and 25, 1879.

† Ziemssen's Cyc., art. Occlusion of Trachea.

dinary law, that murmurs are heard with maximum intensity at that point where the cavity in which they are produced approaches closest the surface of the chest. This, with accentuation of the second sound at the pulmonary artery and enlargement of the auricle, often helps to disentangle a confused murmur.

Dr. MUSSER thought these symptoms were due to the pressure on the trachea, especially as the same dyspnœa, early in July, was relieved by the "breaking of the lump," which had doubtless lessened the tension of the aneurismal sac. He would also call attention to the constant soreness and stiffness at the root of the neck.

Dr. TYSON asked if any disease of the lungs had been detected post mortem.

Dr. MUSSER replied that none had been observed.

Epithelioma of the foot. Exhibited by Dr. H. F. FORMAD.

This specimen is taken from the dorsum of a foot removed by Professor Agnew last winter in the University Hospital surgical clinic. The following history was obtained through the kindness of J. W. Worrell, student of medicine at the University:

The patient, a robust young man of 27 years, acquired fourteen years ago a compound fracture of the os calcis, the foot being caught between the wheels of a threshing-machine. The patient recovered from the injury with a stiff ankle-joint, but at the end of six months the cicatrix began to slough, in which condition it remained for six and a half years; then it again healed up entirely. The cicatrix, which had a very scaly appearance, remained, however, closed but one month; then it opened by one single long fissure or break, and has remained an open superficial ulcer ever since. For five years the edges of the ulcer remained smooth, then they became rough. The ulcer used to increase very slowly in size, more rapidly during the last six months. There has always been a very offensive discharge; it has always been painful and itching; never bleeding of itself, but bleeding readily on the slightest injury. At the time when the patient came to the University Hospital clinic the ulcer was covering an area of twenty square inches, in its longer diameter reaching around the dorsum of the foot, from the external to the internal malleolus. The diagnosis was, as in all such cases, that of indolent ulcer.

Microscopic examination of sections taken from all parts of the ulcer revealed it to be a typical squamous epithelioma crowded with characteristic pearly bodies.

Dr. J. H. PACKARD agreed with Dr. Formad in thinking that certain indolent ulcers were in reality epitheliomatous, and instanced a case in point.

Dr. FORMAD said that he should like to call attention to the youth of the patient from whom this specimen had been removed, for the books generally state the contrary. In his experience he had had several opportunities of examining similar ulcer-like epitheliomata removed from comparatively young subjects.

Dr. NANCREDE said that some five years ago he had presented to the Society for Dr. J. Ashhurst, Jr., a specimen of pigmented papilloma of the groin, which showed the commencing invasion of the subcutaneous tissue by epithelial elements. The patient from whom it was removed was about 18 years of age, and she had remained perfectly free from the disease up to the present time, he believed, owing to the early and free removal of the growth. He also cited a case of so-called "Marjolin's ulcer," giving a detailed account of the microscopical appearances.

Dr. TYSON agreed with the views propounded by Dr. Nancrede, and said that the evident inference to be drawn from the facts related this evening was that early and radical surgical intervention should be resorted to in such cases.

Dr. BRUEN said that he knew of numerous cases of ulcers which had proved intractable for many years,—perhaps twenty,—and which yet showed no evidence of epitheliomatous change.

Dr. FORMAD could not admit that the base of an ulcer, consisting as it does of mere granulation tissue, could become epitheliomatous. The indurated margins of the ulcer, containing epithelial elements, could, however, readily undergo this change.

Dr. TYSON said that Dr. Formad's remarks really opened up the much-vexed question of epithelial new formations. Where a new islet of cicatrization appears in the centre of a sore, the same difficulty arises as to the explanation of its genesis.

Dr. PACKARD said that his remarks had reference to mistakes in diagnosis.

Dr. SHAKESPEARE remarked that he had lately been asked to examine a fragment removed from an obstinate chronic fungous ulcer on an old woman's leg, who had been for many years an inmate of Blockley. Under the microscope, sections of this showed plainly its epitheliomatous nature.

Mitral, aortic, and tricuspid valvular disease; red atrophy of the liver; cirrhosis of the kidneys and pancreas. Presented by Dr. J. H. MUSSER.

The specimens I present are from a patient who died in the University Hospital. The history is as follows:

Maggie M., white, æt. 26, single; born in Dublin; but three weeks in this country; domestic. Father and mother living; six brothers and sisters dead, cause not known by patient. No cancer or phthisis in the family to the patient's knowledge. Five years ago had acute rheumatism; no other illness.

September 22 of this year she was suddenly

seized with vomiting and slight fever. In two days the vomiting was replaced by pain in the xiphoid cartilage. On the 27th she became jaundiced. The above is the patient's story of her condition previous to admission. I may say she drank daily of ale and porter, occasionally to excess.

October 2, her condition was as follows: emaciated and anæmic; skin and conjunctivæ jaundiced. Face dusky, lips blue, countenance anxious; hands and feet blue and cold, fingers clubbed; temperature 95°; mind dull. Tongue dry, heavily coated with a dark fur; thirst; no vomiting; loss of appetite; pain and tenderness upon pressure on epigastrium. Liver dulness in mammary line begins at fifth rib and extends to the margin of the ribs. In median line, dulness extends to two inches below xiphoid cartilage. Slight diarrhœa, stools light yellow. Breathing hurried; lungs healthy; cardiac impulse in second, third, and fourth interspaces, one, one and a half, and two inches, respectively, inside the nipple-line, and in the fifth interspace one-half inch outside nipple. Palpation shows same as inspection, and in addition an epigastric impulse is noted, and at the apex a slight thrill. Cardiac dulness begins at second interspace above. The right border corresponds with the right edge of the sternum, the left with the left limit of the impulse-area. Heart-sounds extremely tumultuous and difficult to define. The first was somewhat booming, with a murmur over the mitral area. At the aortic cartilage a feeble systolic sound, possibly transmitted; pulse very small, weak, irregular, about 160. Urine: reaction, acid; specific gravity, 1021; albumen present; sugar absent; sediment, few granular and numerous hyaline casts, some of them containing red blood-corpuscles; fatty epithelial cells from the bladder and urethra, some of them stained yellow; few pus-cells; irregular granular masses of brown pigment and broken-down red blood-cells.

October 3 and 4, condition about the same. Later, the night of the 4th, she had an attack of dyspnœa, and of severe pain over the sternum and in the right side. There was dulness at the base of the right lung, and subcrepitant râles. Digitalis and carb. ammonia, with dry cups, gave some relief. At 4 A.M. she almost went into collapse; her extremities were cold and blue, face dusky; pulse imperceptible at wrist; heart very rapid, weak, and irregular; subcrepitant râles and dulness at the base of left lung, also. Internal and external stimulation caused relief, so that in the morning she had only slight pain and oppressed breathing; extremities were warmer, face more natural, although jaundice seemed increased; pulse was 150, stronger and more regular. Congestion of lungs posteriorly continued; slight diarrhœa, pale stools; no vomiting.

October 5, 4 A.M., another attack of dyspnœa. At the morning visit the pulse was improved slightly, as was also the dyspnœa; jaundice slightly increased. In the afternoon she became dull, not answering questions readily; heart as usual; no dyspnœa; urine not passed so abundantly as in health.

October 6, weak; breathing hurried; effusion in both pleuræ; heart's action very rapid and feeble, irregular; pulse not felt. Death at 10 A.M.

Dr. FORMAD made the following report of the post-mortem, made by Dr. Hughes, three and a half hours after death:

External appearance: whole body jaundiced; large yellow patches about the head, especially; sclerotic coats of eyes of a deep-yellow color; pupils dilated; abdomen distended slightly; rigor mortis well marked.

Thorax.—Pericardium contained about six ounces of a straw-colored fluid; about two pints of a similar fluid in each pleural cavity. Firm lateral and diaphragmatic pleural adhesions of left lung. *Lungs*, congested; no œdema; crepitant throughout. *Heart* somewhat enlarged, weight fourteen ounces; muscle dark; coronary vessels engorged. Pulmonary artery and valves normal. Tricuspid valve thickened and rigid, orifice contracted. Right auricle and ventricle slightly dilated and filled with dark-red clots and a chicken-fat clot. Aortic orifice was much narrowed by the stiff, retracted, partly calcified leaflets. The valves could not have effected a sufficient closure. Mitral valve-leaflets diseased, permitting regurgitation; the orifice was narrowed. Columnæ carneæ thickened and rigid. On the endocardium, in the left ventricle, at the apex, and near the mitral valve, small white patches of lymph-like appearance were seen.

Abdomen.—Only a small amount of effusion in cavity. Diaphragm and organs in proper position. *Omentum* normal. *Spleen* diminished in size, very hard. *Pancreas* increased in thickness and weight, cirrhotic. The head was so enlarged that it must have pressed on the common bile-duct. *Gall-bladder* distended and filled with bile; duct pervious. *Liver* diminished to about two-thirds its size, weighing one pound thirteen ounces, left lobe somewhat enlarged, however; firm on pressure, surface unevenly yellow tinged, on section "nutmeg" appearance characteristic. *Stomach* of normal size, in greater curvature mammillated. *Kidneys* normal to naked eye, congested, capsule readily removed. *Suprarenal* capsules thickened, hard, and containing white nodules. *Bladder* and *ureters* normal. On posterior surface of *ureters* a small fibroid tumor. Death was due, no doubt, to cardiac failure. The tricuspid disease was not recognized,—perhaps, as Fothergill has suggested, on account of the amount of blood passing through being too small to develop a murmur; especially so because of the altered mitral and aortic orifices. The tumultuous and

rapid action of the heart may have prevented its detection. That the murmur was not developed on account of the small supply of blood is most probable, for venous pulse and liver pulsation were absent. Disease of the valve permitting aortic regurgitation was not recognized, from the same cause or causes, or it was entirely overlooked. I think in both cases the murmurs were absent, as most careful auscultation was performed.

On microscopical examination the liver presented the characteristics of red atrophy, the kidneys were slightly cirrhotic, the pancreas markedly cirrhotic. Examination of the white patches in the endocardium proved them to be the result of a chronic inflammation, like that of an atheroma.

Dr. FORMAD had found upon examining the pancreas that it was much enlarged. Microscopical examination, however, showed that this enlargement was not due to any neoplasm, but to cirrhosis and marked increase of the interacinous connective tissue. The white patches upon the heart muscle were due to mere thickening of the investing serous membrane. Portions of these patches were slightly eroded. The liver presented a rare condition, —viz., red atrophy. This was most marked around the hepatic venules, where the liver-cells were represented merely by a mass of reddish débris. At the periphery of the lobules the cells were much less affected. These conditions, conjoined with marked cirrhosis, account for the microscopic nutmeg appearance of the organ. The kidneys and the suprarenal capsules were normal.

Dr. BRUEN asked Dr. Formad whether there was any catarrh of the gall-ducts.

Dr. FORMAD replied that he had detected none, the ducts being, however, contracted and obstructed at points.

Dr. MUSSER asked if the patches upon the heart were due to an acute or chronic change.

Dr. FORMAD considered the process chronic.

Dr. HENRY remarked that it was an interesting point in connection with Dr. Formad's report that the lesions due to obstructed circulation were so exclusively confined to the liver. He would naturally expect to find in such a case a marked degree of cyanotic induration of the kidneys.

Differential diagnosis of cerebral embolism and thrombosis in cases of disease of the valves of the heart.

Dr. CHARLES K. MILLS said that some points in Dr. Musser's notes recalled a case which he had recently examined post mortem, and in connection with which he wished to make some remarks on the differential diagnosis of cerebral embolism and thrombosis in cases of valvular disease. The patient was a woman more than sixty years of age. During life he had made the diagnosis of fatty degeneration of the heart, and of aortic, and probably mitral, disease. Dr. Bruen, who saw the case in consultation, concluded that only the aortic valves were diseased. The radial and temporal arteries were markedly atheromatous. She had had three attacks of right-sided paresis or paralysis, dying after the last, which came on suddenly. Post-mortem examination showed extensive calcification of the aortic crescents and degeneration of the heart-walls. The aorta and the cerebral vessels, both large and small, were atheromatous. Centres of softening were found in the motor zone of the cortex of the brain, and also in other regions. Several of the secondary and tertiary branches of the middle cerebral artery were found to be closed, the occlusion being due to disease of the walls of the vessels and the formation of thrombi. In cases like this the diagnosis of embolism is not infrequently made, although the condition found is really thrombosis. He would give the following as good diagnostic points. In favor of thrombosis would be (1) advanced age; (2) evidences of atheroma of vessels; (3) fatty degeneration of heart; (4) a succession of slight attacks of paresis. In favor of embolism would be (1) youth; (2) absence of signs of atheroma; (3) previous history of rheumatism; (4) a comparatively severe attack of paralysis.

He, of course, did not mean to go into a detailed discussion of embolism and thrombosis, but only to call attention to one or two differential features.

Dr. TYSON asked if the urine had been examined for sugar.

Dr. MUSSER, in reply, stated that appropriate tests had been applied, but with negative results.

Dr. TYSON, in explanation of his question, said that we have here hypertrophy of the pancreas,—a condition which Niemeyer, on the supposition that diabetes is due to the presence of an increased amount of pancreatic ferment, says always attends diabetes. This is only one of many instances constantly occurring, which show that such a theory of diabetes is inapplicable,—at least, to most cases.

Dr. HENRY remarked, in reply to Dr. Mills, that his experience had led him to believe that softening of a portion of brain-tissue might occur without complete occlusion of the vessels supplying it. About three years ago he was summoned, early in the morning, to an old gentleman who had awakened to find a loss of power in his left hand. While examining him, the paralysis gradually passed away and returned, and in the course of an hour this intermittent paralysis occurred several times. There was no abnormal cardiac sound, and the kidneys, from previous examination, were known to be healthy. On further study of the case, it was noticed that the paralysis, which continued in this intermittent manner for several weeks, was always at its worst in the early morning, when the

heart was acting most feebly. The superficial arteries were not at all atheromatous, so far as could be decided by the touch; nevertheless, the diagnosis of partially-occluded cerebral vessels, with a slightly-fatty heart, was confidently made. The treatment completely confirmed this theory. A few teaspoonfuls of wine taken before rising in the morning caused an immediate improvement in the morning attacks, and under the continued use of the iodide of potassium in small doses the paralysis disappeared. In about a year a second, more decided attack occurred, this time involving the facial muscles of the left side and, in a slight degree, the left leg. This attack was also recovered from, to a great extent, the only perceptible trace remaining being a certain slowness in pronouncing particular words and a slightly diminished grasp of the left hand. A third attack in June last proved fatal,—about six weeks from its commencement. Its onset was more sudden than either of the two former, but by no means *foudroyant*, and it was accompanied by decided symptoms of cerebral softening. At the same time Dr. Henry had under his care a hospital patient, a woman aged about seventy, whose case was almost identical with the one just outlined, even to the time of the attack and the date of death. An autopsy was obtained, and a softened mass, almost diffluent at its centre, was found occupying the extraventricular portion of the right corpus striatum. The small arteries supplying this portion of the brain (arteriæ corporis striati) were traced from their origin—from the middle cerebral artery—to the softened portion of brain, and, although decidedly atheromatous, were not occluded at any point.

Dr. LONGSTRETH said that he agreed with the remarks of Dr. Mills as to the distinctive points in the differential diagnosis of cerebral embolism and thrombosis, so far as mentioned by that gentleman. He was surprised that one very important differential point had been omitted,—viz., the suddenness of the invasion of the symptoms in embolism in contradistinction to the gradual onset in thrombosis. In cases of embolism, a vegetation becomes detached from the diseased heart-valve, and is carried by the blood-current into one of the cerebral arteries. The immediate effect is to cut off the supply of blood to the vascular area beyond the point where the embolic mass is lodged, and that portion of the brain becomes functionally dead. This process is a rapid one, and, if the area involved corresponds to the motor ganglion, hemiplegia results with a suddenness comparable to that due to cerebral hemorrhage. In thrombosis, on the other hand, the closure of the vessels is effected by a gradual process.

Dr. MILLS could not agree with Dr. Henry if he meant to teach that extensive softening, or, in fact, any softening, of the brain could occur without closure of vessels. Softening of the brain was a process altogether peculiar,—a necrobiosis. In order that the pathological process shall result, vessels somewhere must be *closed*. The vessels may be large, may be of medium size, or may be very small, but occluded they must be before softening can take place. We never find true cerebral softening without complete blocking of some of the vessels going to the part. He even doubted the existence of the so-called inflammatory softening of the brain, except in so far as processes of inflammation might lead to occlusion of vessels. He made this assertion knowing that one school of pathologists held to a different opinion. In the case related by Dr. Henry, vessels were found diseased, and their calibre diminished, but they were patulous. May not some occluded vessels have escaped observation? Even with the greatest care, such as was no doubt taken by Dr. Henry, diseased vessels will sometimes elude us. Numerous nutrient vessels, branches both of the anterior and the middle cerebral vessels, supply the corpora striata. These too are terminal vessels, each supplying a limited area, and not having anastomosing branches. Some of them might readily, in the most careful hands, be broken, torn, displaced, or overlooked. He thought that *hardening* and atrophy of the brain were more likely to result than softening from a poor supply of blood or from a supply of poor blood. He was not without the weight of great authority—that of Hughlings-Jackson, for instance—for such views as he had tried to advance. In connection with a discussion of this kind, the fact that necrobiosis may result from numerous occlusions of cerebral capillaries should be remembered.

Dr. Mills considered the point made by Dr. Longstreth, that paralysis from thrombosis comes on slowly, and that from embolism suddenly, a very good one. He should not have omitted it in his enumeration of differential points. He did not, however, look upon it as absolutely distinctive. Some cases of cerebral thrombosis do at times develop paralytic symptoms suddenly. The degenerative disease of the vessels proceeds slowly, the narrowing of the calibre of the vessel taking place gradually; but the final act of closure, the completion of the blocking, may be practically sudden, and thus give rise to the same shock as occurs in a case of embolism. He might here take occasion to remark that embolism and thrombosis do not *always* induce softening. In a brain examined by Dr. Shakespeare and himself, they had found twenty or more points of closure, but only seven foci of softening in the convolutions. The escape from softening in such cases was due to collateral circulation, which in the cerebral cortex was freer than Duret would admit.

Dr. HENRY agreed entirely with Dr. Mills in regard to the necessity of care in the post-

mortem examination of the brain. His experience as physician to a large hospital had long ago taught him this fact, not only in connection with the brain, but also in regard to every other organ of the body. As concerns the case in question, the centre of cerebral softening having been found, the vessels had been traced from it to their point of origin from the middle cerebral artery. No difficulty whatever had been encountered in making this dissection, the softened brain-tissue being readily and completely removed from the small though rigid blood-vessels. Numerous patches of atheroma were observed in the walls of these vessels, but their lumina were patulous. Dr. Henry thought that a weak heart, in connection with but partially occluded vessels, might lead to cerebral softening. He could on no other theory account for the symptoms of the case to which he had first referred, in which the paralysis was intermittent, in the course of an hour a complete paralysis being followed by an almost complete restoration of power, and this on numerous occasions. Remedies which strengthened the action of the heart, such as wine, caused an immediate improvement in the symptoms; and, conversely, the paralysis was always at its worst when the patient had been the longest deprived of food, and the heart in consequence was acting most feebly,—namely, in the early morning before breakfast. Finally, the symptoms of cerebral softening were completely developed in subsequent attacks. Taking this case in connection with the almost precisely similar one in which an autopsy was obtained, and in which the most careful possible search detected no vascular occlusion, Dr. Henry was so firmly convinced of the possibility of cerebral softening without complete vascular obstruction as not to be shaken in his belief by merely negative evidence.

Dr. LONGSTRETH said that he thought it was supposable that a sudden closure of a large vessel was possible; for example, a cerebral artery where the diseased inner coat suddenly became detached and occluded the calibre of the vessel. Again, a rapidly occurring hemiplegia or unconsciousness in the absence of valvular heart disease might possibly be due to thrombosis, provided the occurrence of a cerebral hemorrhage could be excluded. Cerebral embolism did not occur except in connection with endocardiac or valvular disease, or with atheromatous changes in the large vessels. Sudden hemiplegia did not occur except from cerebral hemorrhage, embolism, or possibly, as in the present discussion, from thrombosis, unless symptoms of other cerebral disease pre-existed; for example, tumors. If heart or vascular disease were absent, embolism could be excluded. In all cases of sudden unconsciousness, therefore, it was a question between cerebral hemorrhage and thrombosis. Several years ago, Dr. Longstreth said, when examining a number of cases of cerebral embolism at the Pennsylvania Hospital, he had consulted the records of medical literature concerning this question, and had not been able to find any well-authenticated cases of cerebral thrombosis. In his personal experience the cases of thrombosis all originated from the sinuses or were of venous character; in these cases, of which he had examined several, the cerebral symptoms were sudden in their onset. Hemiplegia or unconsciousness did not characterize them, although paralysis developed subsequently.

He considered Dr. Mills's language was too weak a characterization of this symptom. The point in regard to the suddenness of the symptom was not only a *good* one, but a *capital* one. Dr. Longstreth said he would like to ask for Dr. Tyson's experience in the matter.

Dr. TYSON agreed with him, but could imagine the possibility of the occurrence of cases such as those mentioned by Dr. Mills.

Dr. LONGSTRETH then asked whether Dr. Tyson knew of any such recorded cases.

Dr. TYSON said that he did not.

Dr. MILLS said that they were both theoretically and practically possible, and he thought that observers had overlooked this fact.

Dr. LONGSTRETH could not see how the condition of vessels could result, such as would lead to complete and sudden closure of a cerebral vessel, without precedent cerebral symptoms having been present, either in their slighter form, as mental feebleness or drowsiness, or in their graver form, such as is due to cerebral syphilis. Until proof of such cases having been observed were adduced, he should continue to doubt their occurrence.

Dr. MILLS said that he had seen more than one patient stricken with paralysis suddenly when he also believed thrombosis was the morbid condition present. He had several times confirmed his diagnosis by autopsies. The case reported by him this evening was one of this kind. Usually, however, prodromata are exhibited in these cases.

Dr. TYSON thought that of course this would be the only proof of Dr. Mills's theory, and hoped that he would at a future time report the cases referred to, upon which he founded the statements that he had made this evening.

Dr. SHAKESPEARE said that, since the field of theory had been entered upon, he could conceive of cases where spasms of the vessels from reflex causes might produce sudden unconsciousness, which would, of course, disappear in due time.

DR. STEVENS, of London, and Dr. Atlee, who have both had an immense experience in vaccination, declare that there has not been the slightest deterioration in the efficacy of the humanized lymph.—*St. Louis Courier of Medicine.*

PHILADELPHIA ACADEMY OF SURGERY.

MEETING OF NOVEMBER 1, 1880.

The President, DR. S. D. GROSS, in the Chair.

(Continued from page 188.)

MASTURBATION IN A FEMALE CHILD OF ONE AND A HALF YEARS.

DR. T. G. MORTON gave the history of a case of apparent masturbation in an infant. The child, now 3½ years of age, a female, had contracted the habit more than two years since. It would sit in a corner and rub its crossed legs together until it exhibited the signs of the venereal orgasm. Treatment by bromides was unavailing, as was the search for a physical cause of the affection. Finally an apparatus was devised consisting of a body-jacket with leather thigh-bands and hooks, so regulated that the child was unable to cross the limbs, and thus was prevented from performing the act. The cause was, in his opinion, cerebral, but he hoped to effect a cure by the apparatus.

Dr. S. D. Gross had seen a similar instance at four years, which passed from notice without a cure being effected by varied treatment.

Dr. S. W. Gross had seen reports of similar cases by Jacobi, of New York, and also in the *Berliner Klinische Wochenschrift.* Some of these had been treated by mechanical appliances to keep the thighs apart.

EXTRACAPSULAR FRACTURE OF THE NECK OF THE FEMUR FOLLOWED BY PERFECT CURE.

Dr. John H. Packard showed a patient who now walked without any apparent limp in his gait, though he had sustained an extracapsular fracture of the femoral neck. The injury was sustained on the 7th of May last, by a fall. The diagnosis was made under ether, and the patient then treated by continuous extension. About the tenth day he was directed to sit up in bed, and to do so for a longer and longer time daily,—the extension being still maintained. Fourteen weeks after the accident, he was at work as usual, at a carriage-factory.

An examination showed a large amount of callus about the seat of fracture. All the motions of the joint were perfect.

CASES OF RETENTION OF URINE COMPLICATED WITH ABSCESS.

Dr. John H. Packard also gave a verbal account of two cases of retention of urine necessitating perineal section. The first patient had, when seen, an abscess of the testicle and stoppage in the flow of urine. The penis and perineum were swollen, and, as it was impossible to introduce a catheter, and there seemed to be danger of rupture of the bladder, Dr. Packard performed perineal section without a guide, and found a greatly distended bladder, which was evacuated by the operation. The operation rendered the patient comfortable, and he is now favorably progressing.

The second case was somewhat similar. The patient had been operated on for stone ten years previously, and presented a perineal cicatrix, which was apparently the cause of the urinary obstruction for which surgical aid had been requested. Extravasation was feared when Dr. Packard saw the case: he was able to draw off a small amount of urine with a small catheter. Very little relief followed this measure, however, and it was observed that there was vivid redness and a puffy condition of the abdomen. On the next day a small rubber guide was passed into the urethra and perineal section performed, when a large abscess was found communicating with a collection of pus between the fasciæ of the abdomen. The bladder could be thoroughly explored with the finger, and seemed merely rugous. No further trouble ensued from retention of urine, but the patient sank and died on the fifth day after the operation, apparently from septicæmia. No autopsy could be had.

SPECIMEN OF FRACTURE AND DISLOCATION OF SPINE.

Dr. R. J. Levis showed a specimen illustrating compression of the spinal cord by the slipping forward of one vertebra on the other, due to tearing of the intervertebral substance and fracture of the processes. The history of the patient is as follows:

Joseph K., aged 40 years, was admitted to the Pennsylvania Hospital on September 30, 1880. He was caught in some way in a coal-slide, but could give no account of the accident, as he spoke no English. On admission, the back was very much contused. A fracture was made out, but not defined, about the first lumbar vertebra. The patient had complete paraplegia from the hips down. Urine was drawn every three to four hours; about a week after admission urine dribbled from the bladder itself. The patient became gradually weaker each day, and died on the night of October 16, from exhaustion.

SECONDARY SARCOMA OCCURRING AFTER AMPUTATION.

Dr. S. W. Gross showed the specimens taken from a child who had died five days previously in convulsions from a metastatic osteoid round-celled sarcomatous growth occupying the temporal region of the skull. The patient had been operated on twelve months previously for periosteal osteoid round-celled sarcoma of the ulna, for which Dr. Gross had amputated at the middle of the arm.

As the case was referred to in the paper on "Sarcomata of the Long Bones," presented at the meeting of the Academy on October 6, 1879,* it was deemed proper to present the specimens at this time.

* Philadelphia Medical Times, July 3, 1880, p. 500.

GUNSHOT WOUND OF THE PENIS PRODUCING URETHRAL FISTULE. By J. EWING MEARS, M.D., SURGEON TO ST. MARY'S HOSPITAL.

P. V., aged 34, was admitted to the wards of St. Mary's Hospital, June 6, 1880, suffering from fistule of the penile portion of the urethra, the result of a gunshot wound of the penis. On admission, he stated that, seven weeks before, he was wounded whilst engaged as an officer of the law in the arrest of a criminal. When he received the wound he was standing in front of his assailant, at a distance of thirty feet, and about ten feet below, the gun having been fired from a window. On examination, it was found that the ball, discharged from a Winchester rifle, had entered the base of the glans penis at a point one-third the distance from the corona to the meatus, and passing through, in a direction slightly oblique, from above downwards, and before backwards, had partially emerged at the under surface just behind the junction of the glans and body; thence, being deflected in its course, it passed backwards to the junction of the penis and scrotum, between the integument and urethra, lacerating the former, entered the septum of the scrotum, and, passing through to the extent of two inches, wounded slightly the epididymis of the right testicle, and emerged at a point two and a half inches from the base of the penis. Continuing its course, it grazed the under surface of the right buttock and passed out through the clothing, clipping out a piece from the lower border of his coat. The hemorrhage following the receipt of the wound was quite copious and soon prostrated him. This was controlled by the attending physician, and sutures were introduced to approximate the edges of the wound of the penis.

On admission to the hospital, an examination was made, and the following conditions were noted. On the upper surface of the glans penis there was an irregular, ragged cicatrix, and on the under surface, at a point just behind the base of the glans, there was an opening one-fourth of an inch in length, leading into the urethra. One-quarter of an inch posteriorly there were two small fistulous tracts, with openings the size of a surgical probe. These communicated with the urethra, being separated from each other by a band of tissue one-fourth of an inch in width. The under surface of the penis was denuded of the integument from the junction of the anterior and middle third to the scrotum, exposing to this extent the fibrous envelope of the corpus spongiosum. On exploring the urethra, a stricture, admitting a small surgical probe, was found three-fourths of an inch posterior to the meatus. During micturition the urine escaped by the fistulous openings.

As a preliminary step to the operation of urethroplasty, which it was decided proper to perform, the stricture was divided and dilated so as to admit a No. 12 bougie, English scale. Following this operation and the efforts at dilatation, a severe attack of cellulitis of the penis occurred. This condition was relieved by treatment, but manifested a tendency to return after each introduction of the instrument. Gradually this was overcome, and an attempt was made to close the fistule by plastic operation. An attack of cellulitis again occurred, and rendered the operation but partially successful, about one-half of the opening being closed. As the patient had suffered severely from the heat and confinement in the hospital, he was advised to return to the country and wait until the approach of cold weather before another attempt at closing the fistule was made.

Gunshot wounds of the penis are of rare occurrence in civil practice, the information given in surgical text-books and treatises with regard to these injuries being largely, if not altogether, derived from military sources. It has been observed that these injuries are rarely uncomplicated, the projectile, either after or before coming in contact with the organ, having wounded the parts which are adjacent. In the "Medical and Surgical History of the War of the Rebellion" (Part II., surgical volume), the author, Dr. Otis, reports three hundred and nine shot injuries of the penis in which it is stated no mention was made by those under whose care the cases occurred of involvement of the urethra. Complications, however, were frequently present, and embraced wounds of the scrotum and testes, perineum and thighs, pelvic walls and viscera. Thirteen and two-tenths per cent. of the cases terminated fatally, the mortality occurring in those in which the complications were of a grave character, involving serious injuries of the femur or of the cavity of the pelvis. Cases of great interest are reported by Drs. S. W. Gross and J. Mason Warren, in which the projectiles became encysted in the cavernous portions of the penis.

Of wounds of the penis involving the urethra, the cases reported in the same volume number one hundred and five. Of this number twenty-two terminated fatally, and, as in the fatal cases above mentioned, the causes of death were due to the grave complications which were present.

Traumatic stricture and urethral fistule resulted in many of the cases reported, the former attending the cicatrization of the wound, owing to its lacerated character. The formation of the latter, as stated, may be caused by extensive loss of substance; partial loss, with urinary infiltration; ulceration due to prolonged maintenance of an instrument in the canal; lodgment of foreign bodies; obstruction of the canal anteriorly to the wound by traumatic stricture. Of the wounds of the urethra, those involving the penile portion are most frequent and at the same time the most intractable; those of the scrotal and perineal portions are rarest and most fre-

quently include the conditions of urinary infiltration.

The resistance offered by the structures of the penis to the projectile, and the remarkable deviations in its course as a result, are well illustrated in the case above reported. It seems almost impossible for a ball having the propelling force of the one which caused the wound in this case to be deflected at a right angle from its course after it had passed nearly through the organ, then traverse other resisting structures, and finally pass clear of the body. It is also to be remembered that the projectile was discharged from a point higher than that occupied by the patient, and, presuming the organ to have been in a flaccid condition and depending, it renders the course taken by it still more remarkable.

In fistules caused by shot lacerations plastic operations are more difficult in performance and less successful in result, owing to the loss of tissue forming the walls of the urethra and adjacent to it. Also, the existence of the stricture complicates the case, and, unless entirely removed by preliminary operation, renders success impossible.

REVIEWS AND BOOK NOTICES.

A Treatise on Diphtheria. By A. Jacobi, M.D. New York, William Wood & Co. 1880.

The limits allotted in this journal to the notices of books, and the multitude of works requiring notice, forbid our giving that detailed attention to the present volume which it deserves. We have read almost every page of it with pleasure and, generally, with instruction. It is divided into nine chapters, which occupy about two hundred and fifty pages of very clear print. The portion of the book to which most physicians, when pressed with the responsibility of some severe cases of the disorder, will first turn, concerns the treatment of the disease. The measures usually adopted by the doctor will be found clearly stated, as also the treatment recommended by various other authorities.

Dr. Jacobi seems to rely chiefly upon the free use of alcohol from the beginning of the disorder, with tincture of chloride of iron and chlorate of potassium, and the employment of local treatment. He calls attention to the fact, not always remembered, that the chlorate is an irritant poison in over-doses, and shows that cases of diphtheria have been killed by it. We think he entirely overestimates the value of small doses of the chlorate. It is clearly established, to our thinking, that the chlorate is nearly free from general action upon the system, and that it is beneficial in scarlet fever, diphtheria, etc., only by its local action. The method in which the chloride is employed is peculiar in the frequency as well as the largeness of the dose. The doctor exhibits the chloride every half-hour, hoping for good from its local influence upon the inflamed mucous membrane. The direct local treatment employed is not severe: the avoidance of any procedure apt to wound the inflamed surface; the free and frequent use of carbolic acid upon the membrane, aided by the use of steam, etc., in the individual case. In some cases, where the application can be strictly limited to a part, a mixture of equal parts of glycerin and carbolic acid is employed as a caustic. In nasal diphtheria free disinfection of the nasal chambers by hourly injections into the nose of carbolic acid water (gr. iv to f℥i) is strongly recommended.

For further details we must refer our readers to the book itself, which we cannot too highly commend. Every part of it shows the possession by the author of an intimate acquaintance with the literature of the disease as well as with the disease itself. The style is excellent,—clear, forcible, and concise. We have never read any article or work upon diphtheria so satisfactory as the one upon whose completion we congratulate Dr. Jacobi with the sincerest of good wishes.

Ophthalmic and Otic Memoranda. By D. B. St. John Roosa, M.D., and Edward T. Ely, M.D. Revised Edition. Small 12mo. Pp. 298.

We have rarely seen so small a book embracing so much. It possesses, in addition, a long train in the shape of a copious glossary and index. Evidently, the labor of preparing such a work was too much for *one* author. He prudently withheld from the attempt until a second came to his assistance. Notwithstanding the authors' avowal that the book is not designed to meet the wants of those seeking *primary* knowledge in the specialties of which it treats, it will of necessity be classified with ponies and coaches. We have had a surplusage of such books in general medicine and surgery, and are sorry to see the specialties invaded by them.

The Compend of Anatomy. By John B. Roberts, A.M., M.D. Philadelphia, C. C. Roberts & Co.

This is a good book of its kind, but we should like to see something more sterling from its author. Dr. Roberts is a man of promise, and should not waste his time in writing compends for "preparing students for examination." Such work has never given genuine reputation to any teacher who has gone into it, and it has never been of much use to humanity.

Hygiene and Sanative Measures for Chronic Catarrhal Inflammation of the Nose, Throat, and Eyes. Part I. By Thomas F. Rumbold, M.D. St. Louis, George O. Rumbold & Co., 1880. Pp. 166.

Dr. Rumbold informs the reader, in the

preface of this manual, that he had been early convinced that the successful management of catarrh depended upon the faithful observance of the laws of health by the patients themselves. The book is an outcome of the necessity of such observance. It appears to be a summary of rules designed for the laity, and, as such, needs no special introduction to the profession. To spread the knowledge that a book exists for the physician to recommend to sufferers from catarrh is evidently the main object Dr. Rumbold has in seeking a notice at our hands. We can say, in a word, that the rules are good and are well worth following by all.

MEDICAL HERESIES HISTORICALLY CONSIDERED. A SERIES OF CRITICAL ESSAYS ON THE ORIGIN AND EVOLUTION OF SECTARIAN MEDICINE. By GONZALVO C. SMYTHE, A.M., M.D. Philadelphia, Presley Blakiston, 1012 Walnut Street.

Professor Smythe has succeeded in writing a brief, clear, and interesting sketch of the evolution of medical eccentricities, and of modern homœopathy, its facts and fallacies. We commend the work, a brochure of 225 pages, to those desiring information on the subject. We sincerely wish the laity could be induced to peruse it.

GLEANINGS FROM EXCHANGES.

OPIUM-POISONING SUCCESSFULLY TREATED BY ATROPIA HYPODERMICALLY.—Dr. J. W. Breedlove (*Virginia Med. Monthly*, December, 1880) was called to a case where eight to ten grains of morphia had been taken at a single dose an hour and a half previously. He at once gave an emetic dose of salt and mustard (both being at hand), followed by copious draughts of warm water, with the twofold object of diluting any unabsorbed poison and facilitating emesis. In about fifteen minutes, no vomiting having occurred, he gave about thirty grains of ipecac, and this, with the aid of titillation of the fauces, produced free vomiting in about five minutes more. The peripatetic and perturbating plan was then adopted, as also the free use of strong coffee, and cold water applied to the face and head. An hour later, at 8 P.M., the narcotism growing deeper and the symptoms becoming more alarming, he injected hypodermically 1-96th of a grain of atropia; in half an hour 1-48th of a grain was administered, and at 9.30 and 11 P.M. this dose was repeated, the use of strong coffee and cold affusions being continued at the same time, the patient being assured that her safety depended on her not giving way to the desire to sleep, thereby securing to some extent her co-operation. At 4.30 A.M. the symptoms were much improved, it requiring but little continued effort to attract her attention. At 8 A.M. the patient had so far improved that the doctor acceded to her request to lie down and take short naps. Not until after the administration of the last dose of atropia did the pupil begin to manifest its mydriatic influence. From this time improvement was progressive; but convalescence was slow, owing to extreme nervous prostration.

COMPARISON BETWEEN THE THERAPEUTIC VALUE OF FREE PHOSPHORUS AND THE HYPOPHOSPHITE SALTS.—Dr. J. Ashburton Thompson, well known for his researches on the action and use of free phosphorus, writes to the *British Medical Journal* of October 30 to controvert in part the views of Dr. Frederick Churchill as to the high therapeutic value of the hypophosphites as a form of phosphorus. He says, "Should the former be substituted for the latter under the impression that their action is identical, disappointment will be experienced in the effects produced in many cases, but more especially in many cases of neuralgia, in cases of insomnia the result of nervous exhaustion (in which it is desirable to avoid the use of narcotics if immediate relief can be procured by other kinds of medicine, as it may be procured by free phosphorus), and in all cases of imminent death under the typhoid condition."

Having tried the hypophosphite salts, Dr. Thompson has now almost entirely relinquished them in favor of hypophosphorous acid. This acid, of which the dose is one, two, or three drops for infants, five drops for adolescents, and ten drops for adults, given every four hours, Dr. Thompson has been brought to regard as a valuable means of treating all cases of disordered nutrition, whether the result of chronic or acute febrile disease. It may be administered in a variety of combinations, and he has been led to prefer it to the alkaline salts because he has found its effects more promptly manifested, productive of more permanent results, and withal more generally useful.

CHLORATE OF POTASSIUM IN THE HEMORRHAGIC DIATHESIS.—Dr. Alexander Harkin (*British Medical Journal*, vol. ii., 1880, p. 700) continues to extol the virtues of this drug. He gives several cases in which its success in restraining hemorrhage of different kinds was decided. In one of these, hemorrhage from the mucous membrane of the rectum, he prescribed rest and a mixture of one ounce of chlorate of potassium and twenty ounces of water: dose, one ounce three times daily. After the first day the patient began to improve, and by the third day every trace of the disease had disappeared. In a case of hæmophilia with habitual and often virulent epistaxis the same treatment was employed, only with the addition of one drachm of the tincture of the chloride of iron per dose. A fortnight later the patient was well. In a case of renal hemorrhage the same combination proved effectual after many remedies,

and even the tincture of iron alone, had proved without avail. Two cases of purpura hæmorrhagica, due to low diet and a scorbutic condition, are also reported by Dr. Harkin as cured by a similar treatment. Cases of menorrhagia, hemorrhage from the womb, hæmatemesis, and hæmoptysis were all treated successfully with the chlorate; and, though Dr. Harkin may be too sanguine in his advocacy of this remedy, it certainly deserves to be remembered among our means of controlling hemorrhage.

Apparent Death as a Result of Asphyxia.—Medical journals occasionally inform us of wonderful resuscitations brought about by the persistent use of artificial respiration; but two, lately reported to the Academy of Sciences, Paris, by Dr. Fort, Professor of Anatomy in the Ecole Pratique, are especially noteworthy, and teach us to persevere in any efforts we may make to bring back signs of life. In the case of a child three years old, who had already been placed in the shroud, Dr. Fort commenced the use of artificial respiration three and a half hours after apparent death. After four and a half hours of steady work the child was brought back to life. The other case was that of a drowned man, who had been under water for twelve minutes before the body was recovered. Artificial respiration was commenced an hour afterwards, and after being kept up for hours the man was restored to life. The report of the meeting of the Academy does not give the details of the child's case before the appearance of the apparent death, nor what prompted the doctor to commence the artificial respiration. —*Medical Press and Circular.*

Reprehensible Practice.—A correspondent of the *Druggist's Circular* writes as follows: "A few weeks since, a young man suffering from toothache asked a druggist for something that could relieve him. The druggist dissolved eighty grains of chloral hydrate in one ounce of syrup of ginger, gave one drachm of it, undiluted, to the patient, and wrote on the label, 'A teaspoonful every half-hour till relieved.' The patient had six doses as directed, when he was taken with convulsions, palpitation of the heart, and finally unconsciousness, attributed by regular physicians, then called in, to an overdose of chloral. The consequence was that the patient was sick for two weeks from the effects of the dosing, and claims that the druggist did wrong and should pay the doctors' bill. The druggist claims that he was not wrong, and should do the same thing again. Is the druggist culpable or not?"

The editor replies at once, and plainly, that the druggist is guilty of criminal imprudence; and we are convinced that our readers will agree with him in this opinion.

Essence of Winter-Green in Purulent Cystitis.—The essence of winter-green, more used in perfumery than in pharmacy, is, according to the *Journal de Médecine et de Chirurgie pratiques*, used by M. Périer, of the St. Antoine Hospital, in the treatment of purulent cystitis. It is a powerful antiseptic, of a penetrating but not disagreeable odor, and non-irritant. Though its price is high, this does not form a bar to its use, as it is given in very small doses. The essence of winter-green is procured from the *Gaultheria procumbens*, a North American shrub. Chemically, the essence is called salicylate of methylene, or methylsalicylic ether: it is only slightly soluble in water. Dr. Périer employs the following combination: essence of winter-green, six grammes; tincture of quillaya saponaria, thirty grammes; water, one litre. This forms an excellent fluid for injecting into the bladder, for washing wounds, and for some simple dressings.—*Medical Press and Circular.*

Treatment of Choleraic Diarrhœa by the Hypodermic Injection of Morphia.—Mr. W. Hardman says (*Lancet*, vol. ii., 1880, p. 538) that choleraic diarrhœa can always be immediately stopped by the administration of morphia hypodermically. If severe diarrhœa have persisted over two hours in spite of the administration of morphia and opium, hypodermic injection of morphia should be at once resorted to. The treatment is absolutely free from danger, even if albuminuria or temporary suppression of urine be present. In severe cases obstinate vomiting may persist for twelve to forty-eight hours after the purging is stopped; but this need not occasion any anxiety: it is the purging that kills.

Statistics relating to the Seat of Chancrous and Chancroid Ulcers in Women.—Dr. Razumoff tabulated 1374 cases, treated in one of the Moscow hospitals, as follows: ulcers were seated on the uterine cervix in 117 cases (8.5 per cent.), 13 of this number being chancres with subsequent general infection; 664 on large and small labia; 272 at the vaginal entrance and between the mystiform caruncles; 176 on the posterior commissure; 60 on the perineum; 55 about the anus; 26 on the anterior commissure; 3 in different parts of the vagina, and 3 on the meatus urinarius.—*Meditz. Obozrenie*, p. 360, May, 1880; *New York Medical Record.*

Treatment of Excessive Perspiration of Hands and Feet by Faradic Current. —As this symptom is due to disordered functional activity of peripheral nerves, Dr. Gordon was led to study this particular condition, with the following results. The tactile and faradic sensitiveness of these parts is diminished; their temperature is lower. Systematic faradization controls the perspiration, and corresponding to the effects of treatment the above two conditions are relieved.—*Vratch.*, 1880, No. 20; *New York Medical Record.*

Atropia as a Substitute for Morphia for the Relief of Pain.—Dr. Wrightson, of Newark, New Jersey, reports a case of cholera

morbus in which the intense pain was instantly relieved by one-eightieth grain of atropia hypodermically, after the failure of thirty minims of Magendie's solution of morphia. The patient was on board of a pleasure-yacht, and the atropia, Magendie's solution, and a hypodermic syringe composed the doctor's armamentarium. — *Maryland Medical Journal*, September 1; *New York Medical Record.*

MISCELLANY.

FILARIA DISEASE.—The parasitic theory of the causation of elephantiasis has been subjected during the last two years to a considerable amount of criticism, favorable and unfavorable. It has been accepted by some, and those the best acquainted with tropical disease, as supplying the key to what before was mysterious and a sealed book; others, again, have suspended judgment in the matter, considering the evidence not yet complete; while a third section, including eminent pathologists, such as the late Dr. Tilbury Fox, deny it altogether. In the eighteenth issue of the valuable half-yearly medical reports of the Chinese Imperial Maritime Customs, just received from Shanghai, Dr. Manson, of Amoy, who is well known as one of the most earnest workers in this field of pathology, gives a very striking account of his further researches into the question. Perhaps the most remarkable of his results has been the discovery of the periodicity observed by the embryo of Filaria Bancrofti in the blood.

He observes that it had always seemed strange to him that the filaria sanguinis hominis had escaped observation in the blood until Lewis found it there in 1872: "One would think there were hundreds of workers in India, and in different parts of the tropical world, who must have searched the human blood in the aggregate thousands of times; and, notwithstanding this, the parasite, which in some places is present in every tenth individual, was overlooked, or never found, for so many years." The explanation of this Dr. Manson now offers. Most workers with the microscope pursue their investigations during the hours when the light is good,—*i. e.*, during the day. Dr. Manson shows that this is the wrong time to search for filariæ. Finding that different results were obtained by his assistants according as they worked during the day or after dark, he made a systematic examination every four hours of several patients, with the view of ascertaining if this periodicity was maintained in every case. Examination of the patients in this way showed that, unless there is some disturbance, as fever, interfering with the physiological rhythm of the body, filaria embryos invariably begin to appear in the circulation at sunset, and their numbers gradually increase till about midnight; during the morning they become fewer by degrees, and by nine or ten o'clock in the forenoon it is a very rare thing to find one in the blood. Until sunset they appear to have completely deserted the circulation, but with the evening they come again, to disappear in the morning, and so on with the utmost regularity every day, and from day to day. The circle is completed every twenty-four hours, and there are no longer spells of absence than from morning to evening. For the meaning of this Dr. Manson thinks we have not far to look: "The nocturnal habits of the filaria sanguinis hominis are adapted to the nocturnal habits of the mosquito, its intermediary host, and form only another of the many wonderful instances of adaptation so constantly met with in nature."

The conclusions at which Dr. Manson arrives, after his study of the subject, are the following, which deserve serious attention. The parent filariæ live in the lymphatics. This is proved by their young and ova being found there even when absent from the blood. They do not live in the glands, but in the lymphatic trunks on the distal side of the glands. (Lewis and Bancroft found them in tissues some distance from any glands.) They are oviparous. The eggs are carried by the lymph-current to the glands; and, being too large to pass ($\frac{1}{502}'' \times \frac{1}{750}''$), they are arrested there till hatched. After hatching, the free embryo passes along the lymph-vessels and enters the general circulation. Resting in some organ during the day, it circulates with the blood during the night; whence the mosquito abstracts it and acts as its intermediary host. In certain cases the ova or embryos produce obstruction of the lymph-circulation through the glands, either directly by their size, or indirectly by causing inflammation. If the obstruction be partial, varicosity of glands and of afferent lymphatics results; but by means of the anastomoses the lymph-circulation is continued, carrying the embryos with it into the blood. Lymph-scrotum, or chyluria, or varicose groin-glands, with hæmatozoa, are therefore the symptoms of partial obstruction of the lymphatics. If the obstruction be complete, one or other of two things happens. *a.* The accumulating lymph so distends the vessels that they rupture, and a lymphorrhagia results, which is more or less permanent. In this case, the lymph does not quite stagnate; but, being able to circulate, though in a retrograde manner, it remains fluid. The symptoms of this form of obstruction are, therefore, lymphorrhagia from scrotum or leg, varicose glands, and filaria-embryos in glands, and perhaps in discharged lymph, *but none in the blood.* *b.* If the lymphatics fail to rupture, there is a complete stasis of lymph, and excessive accumulation in the tissues on the distal side of the glands; solidification of the glands and

tissues, and elephantiasis, result. No embryos are found in the blood, as none can pass the glands; and the parent worm or worms probably die choked, so to speak, by the stagnant and organizing lymph and their own young. Consequently, in pure elephantiasis, as a rule, no embryos can possibly be found in the blood or in the lymph of the glands.—*British Medical Journal.*

MEDICAL NIGHT-SERVICE IN PARIS.—The statistics of the Medical-Night Service in Paris for the period from July 1 to September 30, 1880, show 1570 visits to have been paid by the physicians. The table of diseases treated is interesting reading, and should be instructive to the newly-fledged practitioner who is well posted in the diagnosis and treatment of progressive pernicious anæmia or yellow fever, but is a little nervous at fear of being unequal to some sudden "emergency case." The commonest cases which the Night Medical Service was called upon to treat were as follows: Gastro-intestinal troubles, 156 cases; "neuroses," 93; accouchements, 90; hemorrhages from external or internal causes, 89; cerebral affections, —paralysis, 87; angina and laryngitis, 79; cholerine, 76; wounds and contusions, 71; hepatic, nephritic, and lead colic, 67; eclampsia-convulsions, 65; neuralgia, 63. In 51 cases death had occurred before the arrival of the physician. The average number of visits per night was 17; 36 per cent. of the patients were men, 49 per cent. were women, and 15 per cent. were children under three years of age.

RECTAL ALIMENTATION.—At the meeting of the French Association for the Advancement of Science at Rheims, M. Catillon read a paper on "Alimentation by the Rectum," in which he stated that he had fed two dogs during two months with injections of eggs. The first, which had eggs only, lived with difficulty, with considerable loss of weight; the other, in which the injected eggs were mixed with glycerin and pepsin, lived in an apparently normal manner, weight and temperature being constant. After thirty-seven days, the pepsin having been stopped, the animal lost weight, and the temperature fell from 102° Fahr. to 99° Fahr. It is therefore apparent that, in order that nutrition should be properly performed by the intestine, digestive ferments must be associated with the food, —that is to say, they must be transformed into peptones.—*Medical Press and Circular.*

SULPHATE OF ZINC IN DIGESTIVE DERANGEMENTS.—According to Niewodniczanki, this salt may be advantageously employed in place of nitrate of silver in affections of the digestive organs (*La Presse Médicale Belge*). The sulphate of zinc is less easily decomposed, is better tolerated, and seems very active. It has been employed with success in acute and chronic affections of the stomach and in gastralgia; the addition of codeia or opium to the sulphate of zinc is unnecessary, for the salt is itself calmative. It is given in doses of 6 to 10 centigrammes a day. It is also useful in diarrhœa.—*Medical Press and Circular.*

DR. CARL SEILER, the well-known laryngologist, of this city, will spend some time this winter, beginning January 1, at the St. James Hotel, Jacksonville, Florida. Physicians who have cases going to Florida requiring topical treatment of the larynx can refer them to Dr. Seiler with entire confidence that they will receive the best attention.

FORGOTTEN BY DEATH.—Old Prof. Chevreul, aged ninety-five, has just completed that course of forty lectures on chemistry for which he was so widely advertised a few months ago. As his father lived to be one hundred and five, the old gentleman may yet lecture the century out.

DR. THOMAS WOOD, of Cincinnati, died November 21, from blood-poisoning received by attending with chapped hands the wounded in the recent railroad accident.

THE *Virginia Medical Monthly* will be published as a daily bulletin during the sitting of the American Medical Association at Richmond, Virginia, May 3–7, 1881.

DR. L. WOLFF contributes to the *Pharmacist* a paper on "Pharmacocatagraphologia," which expressive word is supposed to mean the art of writing prescriptions.

THE recent hurricane in Jamaica damaged or destroyed some 10,000 cinchona-trees and over 400,000 seedlings.

THE Medical Committee of Middlesex Hospital report, after long trial, that Chian turpentine is useless in cancer.

SIR BENJAMIN BRODIE, son of the famous surgeon, professor of chemistry at Oxford, and author of a number of scientific works, has just died.

ST. MARY'S HOSPITAL, of this city, has opened an eye and ear department.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM DECEMBER 12 TO DECEMBER 25, 1880.

BAILY, J. C., MAJOR AND SURGEON.—Granted leave of absence for one month, with permission to leave the limits of the Division and apply for one month's extension. S. O. 188, Division of the Pacific and Department of California, December 13, 1880.

HEIZMANN, CHARLES L., CAPTAIN AND ASSISTANT-SURGEON.—The extension of his leave of absence granted him October 30, 1880, from A. G. O., still further extended two months. S. O. 268, A. G. O., December 18, 1880.

KANE, J. J., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty at Fort Cummings, and assigned to duty as Post-Surgeon at Fort Union, New Mexico. S. O. 153, District of New Mexico, December 13, 1880.

BENHAM, R. B., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty at Fort Snelling, Minn., and assigned to duty at Fort A. Lincoln, D. T. S. O. 165, Department of Dakota, December 8, 1880.

PHILADELPHIA, JANUARY 15, 1881.

ORIGINAL COMMUNICATIONS.

CHLORAL HYDRATE.

BY H. H. KANE, M.D.,
New York.

ARTICLE VI.

CHLORAL DELIRIUM.—CONTRA-INDICATIONS.

CHLORAL DELIRIUM.—The delirium from chloral may be of three kinds: 1st, from small doses, disappearing when a little more chloral is given; 2d, from large doses, persisting until some of the chloral is eliminated; and 3d, that which occurs when the drug is suddenly withdrawn after its use for some time. One or more of these three forms have been seen by Drs. J. M. Nordlin, Rome, Ga.; L. C. Herrick, Woodstock, Ohio; J. B. Treadwell, Boston, Mass.; N. C. Husted, Tarrytown, N.Y.; J. N. Lawson, Silver Creek, Miss.; C. H. Hunt, Stanwood, Iowa; W. P. Bolles, Dorchester, Mass.; J. P. Anthony, Sterling, Ill.; John Dixwell, Boston, Mass.; R. E. Sutton, Rome, N.Y.; J. C. Hoffman, Chicago, Ill.; D. N. Kinsman, Columbus, Ohio; E. H. Coover, Harrisburg, Pa.; R. V. Davies, Roxton, Texas; Allison Maxwell, Indianapolis, Ind.; De Forrest Willard, Philadelphia, Pa.; Dr. Waters;* John Hurdsfield, New York City; G. W. Chamberlain, Hartford, Conn.; George M. Beard, New York City; A. P. Brown, Jefferson, Texas; J. P. Landis, Hollidaysburg, Pa.; D. M. Cool, Chicago, Ill.; George W. Elerick, Hickory, Iowa; C. H. Hughes, St. Louis, Mo.; John B. Squier, Sulphur Springs, Ohio; Stephen Rogers;† Francis Goolden,‡ of Maidenhead; J. M. Lewis, Kosciusko, Miss.; C. W. Earle, Chicago, Ill.; J. D. McCleary, Indianola, Ind.; W. H. Travers, Providence, R.I.; George W. Avery, Hartford, Conn.; E. L. Partridge, New York City; C. H. Greenough, New York City; E. Brallier, Chambersburg, Pa.; J. M. Pace, Dallas, Texas; George W. Elliot,§ Bouchut,‖ and many others. The following interesting letter is from Dr. J. A. Ingles, of Morea, Ill. It is a type of the severe cases of chloral intoxication:

"In regard to the case of chloral intoxication, I would briefly say that J. S., laboring under fits of ague, came to my office May 17, 1879, having a little fever and a distressing pain in his head. Said he wanted something to relieve his head and he would wear the chills out. I gave him about twenty-five grains (perhaps thirty, as I fail to remember now) of chloral, dissolved in a little water. In ten minutes he wanted to lie down. Said his head was better, but he felt very queer and light-headed. I took him into a room and helped him to lie down, with instructions to keep quiet and take a nap, after which he certainly would feel better. I watched him a few minutes and left him, as I thought, asleep; but he afterwards said he was not. I turned my attention to something else, but did not have long to wait until I heard a noise as of some one falling out of bed, but in reality he had jumped out, and was trying to climb the walls of the room. He imagined he was riding horseback, and expressed it as going like 'white lightning.' He said he could not see, and wanted to know what made it so dark, this being about 10 A.M. a bright day. His eyes had a glassy appearance, lids about half closed, the pupils were contracted, pulse quick and wiry, muscles rigid and tense; for a short time, perhaps five or ten minutes, complained of freezing. In half an hour he was sweating profusely, when he became quiet and dropped off into a drunken sleep. His conversation during the excitement was that which is generally characteristic of persons under the influence of liquor. He slept perhaps three hours, and awakened free from pain, but very much exhausted. Ate a pretty hearty supper, considering his debilitated condition, but has been enjoying better health than previous to his chloral intoxication. Has not had return of chills."

Here again is that sudden loss of sight which occurred in Dr. Chamberlain's case, and which is quite similar to that described in Article V. In both cases there were violent delirium and hallucinations.

Mauriac¶ relates several cases of very violent chloral inebriety, in two of which there was bleeding from the nose. These

* London Lancet, May 4, 1872.
† New York Medical Record, 1871, p. 379.
‡ Practitioner, 1870, p. 191.
§ (Lancet) Druggists' Circular and Gaz., February, 1870.
‖ Archives Générales, vol. ii., 1869, p. 755.

¶ Gazette des Hôpitaux, 1870, p. 382.

patients were all under treatment for venereal diseases at the Hôpital du Midi.

Dr. S. S. Boyd, of Dublin, Indiana, writes me of the case of a very intemperate man of nervo-sanguine temperament: "He was well educated and talented, but a physical, moral, and mental wreck. A portion of the bones of his cranium had been removed on account of syphilis. While here he suffered at times from neuralgia of face and scalp. To allay these symptoms I prescribed for him twenty-grain doses of chloral, which always gave him relief. Finally he would procure chloral from a druggist and take it without my advice.

"One day he and a friend took a ride into the country, starting at 1 P.M. Before leaving town he bought two hundred and twenty grains of chloral and dissolved it in eight ounces of water. Before their return, at five the same afternoon, he had taken all but about a half-ounce of the fluid, or over two hundred grains of chloral.

"He was ravingly delirious when he returned to town, wanted to kill the friend who accompanied him, but, as he was so weak that two men had to support him to get him to bed, he was not very dangerous. I administered to him one-half grain of sulphate of morphia. In a short time he was asleep, and slept a kind of drunkard's sleep all night."

Prof. Henry M. Lyman, of Chicago, Ill., writes me of a lady who took through mistake ninety grains, in divided doses, in the course of one night. She was for a short time (half an hour) delirious, swearing and shaking her fists at her friends, though naturally a very amiable and religious person. She experienced no bad effects the next day.

Dr. J. A. Miller,* of Williamsburg, Ky., has frequently seen chloral produce intoxication analogous to alcoholic inebriety, being more likely to act in this way when the person has been previously slightly stimulated.

A case of severe delirium tremens, after stopping chloral which had been used for a year, occurred in the practice of Prof. Da Costa, and is reported by Dr. Frank Woodbury.†

A similar case is reported by Elliot,‡ of London.

In many instances delirium does not follow the abrupt stop in the prolonged use of chloral. Such cases are reported by W. R. D. Blackwood,§ Laurence Turnbull,‖ Bidlack,¶ and Lee.**

Occasionally chloral seems to aggravate existing delirium.

Drs. Fraser and Muirhead†† have used chloral in a large number of cases, and with very satisfactory results, especially as regards its hypnotic action in fever. They found that when violent cerebral excitement was present an ordinary dose was apt to increase it, while a double dose sufficed to allay it and produce sleep.

Grainger Stewart‡‡ observes that in one or two cases he had seen distressing symptoms follow the use of chloral. In one case temporary insanity had occurred, accompanied by delirium, the patient fancying he saw rats and other animals running about him. He had no delirium previously.

F. C. Shattuck, Boston, Mass., writes me that he believes it makes nervous and hysterical women wilder instead of calming them.

Obet§§ seems to think that this delirium and "nervous irritation" are due to impurities in the drug. This is also the opinion of Liebreich,‖‖ who, finding delirium and eruption in one or two cases, used another and pure preparation, when no such results followed.

This may be the case in some few instances, but that it is so in the majority I do not believe. I have seen wild delirium from a perfectly pure preparation of chloral in small doses.

Dr. Malcolm McLane, of this city, writes me that he has seen delirium supervening upon a compound fracture greatly aggravated by chloral.

Several of my correspondents claim that the delirium of delirium tremens is sometimes aggravated and continued by the use of chloral, all delusions, etc., disappearing on stopping the drug.

A. P. Hayne, San Francisco, writes me as follows: "Bromide and chloral seem to produce delirium in some cases when long continued; ceasing when chloral is stopped and bromide given *alone*. There

* By letter.
† Medical and Surgical Reporter, November 9, 1878.
‡ Lancet, 1873, p. 754.

§ Medical and Surgical Reporter, November 9, 1878.
‖ Ibid. ¶ Ibid. ** Ibid.
†† Edin. Med. Jour., 1870, p. 1138.
‡‡ Edin. Med. Jour., June, 1870.
§§ Medical Times and Gazette, July, 1875.
‖‖ Lancet, June 16, 1877.

is no doubt but that if given beyond a certain time it will create the visions which it is generally given to overcome. Patients give minute details of what they saw. In these cases all symptoms of delirium tremens had passed away, and medicine was given for persistent insomnia. Lasted from two or three days to ten days in one case."

The doctor, having charge of a home for inebriates, speaks intelligently.

Mr. Pugin Thornton relates the particulars of a case of delirium tremens where eight drachms of chloral hydrate were administered within thirty-three hours and a half. The delirium was not relieved thereby: on the contrary, the patient recovered as soon as the chloral was stopped.*

Dr. Horatio C. Bigelow, of Washington, D.C., writes me that he observed, in one instance, in a hypochondriac, who was given chloral, exaltation of the ideo-motor centres, followed by delirium and subsequently maniacal excitement.

Dr. De Forrest Willard, of Philadelphia, believes that combining the bromide of potassium and morphine with chloral to a certain extent prevents the development of delirium and hastens sleep.

Chloral given to patients who have been abruptly broken from the use of morphia or opium sometimes produces wild delirium, at times amounting to acute mania.†

TETANUS AND CONVULSIONS.

Dr. G. W. Chamberlain,‡ of Hartford, Conn., saw slight tetanic spasm in one case after the use of this drug, as follows: "I gave a dose of fifteen grains to induce sleep in a case of typho-malarial fever. A young man aged 28, of what are called fast habits, never had had any specific disease. In ten minutes after taking it his face and neck were strongly flushed and the muscles of the jaw stiffened. After they relaxed there were several attacks of severe twitching of the muscles of the jaws and face. Brandy hypodermically was of the most service here."

Dr. C. H. Hughes, of St. Louis, Mo., writes me that he has seen one case where there was temporary trismus after the use of chloral.

Regarding convulsions, Dr. C. A. Bryce, of Richmond, Va., writes me, "I have seen chloral produce slight convulsions at the commencement of its use. I now recall a case occurring in my practice some eight years ago, in which I was sent for to see a lady who was suffering terribly from a 'nervous headache,' to which she had been subject for years. I gave her fifteen grains of chloral. In ten minutes her face became almost purple; she passed off into a *convulsion*, from that into a sweet sleep, and had *no return of headache* for years. She had formerly experienced an attack every week or ten days."

From the few cases here detailed and more to be found in literature, it is evident that chloral rarely produces convulsions or tetanus, certainly not so often as morphia, especially when it is given subcutaneously.§

CONTRA-INDICATIONS.

The very formidable list of cases where poisoning, syncope, and death have occurred from the use and abuse of chloral teaches us very forcibly that, if we are to give the drug at all, we should make ourselves thoroughly acquainted with those conditions, hereditary or acquired, in which chloral is either not well borne or dangerous.

The contra-indications to the use of the drug as originally laid down by Liebreich are as follows:‖

1. Extensive destruction of the mucous surfaces of the *primæ viæ*. If used at all in such cases, it must be given well diluted with mucilage; or it may be thrown into the rectum.

2. Arthritic conditions are unfavorable, unless the blood be first rendered alkaline.

3. In typhus, if given, it should be in small doses.

4. In affections of the circulatory apparatus, especially valvular and other serious diseases of the heart, small doses should be used.

5. It is contra-indicated in hysteria, in which it often increases and fixes the condition of excitement. This, Professor Liebreich considers inexplicable.

6. Whether or not it is contra-indicated in icterus remains to be seen, it having been so asserted.

The very extensive use of the drug in the past ten years has taught us that Dr. Liebreich's conclusions are subject to con-

* (Brit. Med. Jour.) Druggists' Circular, March, 1875.
† Levenstein, "Morbid Craving for Morphia." London, 1880.
‡ By letter.
§ Kane, "Morphia Hypodermically." New York, 1880, p. 227.
‖ (The Doctor) New York Medical Record, 1872, p. 106.

siderable modification. In the main, however, they remain about the same.

As regards the second clause, Dr. John W. Ogle* and several of my correspondents report that they have used the drug in this disease, and that it did not require any other than the ordinary dose to produce the desired effect. Dr. Farquharson,† however, agrees with Dr. Liebreich on this point, as he himself has found that in acute rheumatism large doses of chloral have not only not done good, but have even caused delirium. Mr. Brudenell Carter, during the discussion (case of poisoning given by Mr. Hulke), wished to know whether there was really sufficient evidence of diminished alkalinity of the blood in rheumatism. A gouty patient of his had told him that the discovery of chloral hydrate was to him an untold source of bliss and happiness.

Dr. A. A. Smith,‡ of this city, finds that chloral acts better in rheumatism after full doses of the alkalies. He thinks that when the urine is alkaline the drug will be found to act rapidly and efficiently, and would take the reaction of the urine as an indication for the amount necessary to use.

With reference to its use in typhus and typhoid fever, it must be said that here too it has received an extended trial, and without producing any very marked evil effects and much good. One case where ten grains produced decided trouble is given in Article IV. Dr. Russell, of Glasgow, Scotland, has experimented with it largely in reducing the temperature in fevers.§ Dr. J. C. Neall,‖ of Deadwood, D.T., has used it in over forty cases of typhoid fever with good result, saying that he has not yet lost a case. Like testimony is given by many others.

Dr. Smith states that he has found that smaller doses are required to produce the desired effect in those fevers where there is a hyperalkaline state of the blood. In one instance, a case of typhoid fever, ten grains by the rectum sufficed to produce sound sleep.

No one will for a moment question the necessity for great care in the use of this drug in rheumatism, gout, typhus, and typhoid fever, for in all these diseases there is a weak condition of the heart after organic cardiac disease, especially in gout and rheumatism, as also disease of the kidneys. It is likely that the danger from fair-sized doses, in these diseases, is due more to the condition of the heart than to the lessened or increased alkalinity of the blood. If acidity or alkalinity has anything to do with the matter, its effect is probably exercised while the drug is in the stomach.

As to the danger of using this drug in diseases of the heart and arteries, it is undoubtedly great, and the utmost caution must be displayed if it is to be used at all.

Dr. Da Costa,¶ in his Toner lectures, says, "Not only in cases of cardiac adynamy, but in other cases where an enlarged and powerful ventricle is faltering before a tight stenosis, chloral is contra-indicated, as it has been found, under these circumstances, to produce a paralyzing effect upon the heart of a most undesirable character."

This, says Dr. MacDonald, may be obviated by using digitalis at the same time.

Dr. J. W. Parsons,** of Portsmouth, N.H., has given it in cases where there was serious valvular trouble, without any ill effect. Still, he does not advise its use where these affections exist.

Dr. Habershon†† had most alarming symptoms from thirty grains of chloral in a case of aneurism of the thoracic aorta. The patient became unconscious at once; face and hands livid and cold; breathed only at long intervals; recovered after five hours. Dr. Habershon believes chloral has a tendency to produce pulmonary congestion, and that it should never be given in bronchitis or pneumonia.

Dr. A. E. McRae‡‡ says, where there is valvular disease of the heart, he has always found it is rejected immediately. He says that Drs. Fuller, Crichton-Brown, and Dunlap, of Jersey, agree with him on this point: their patients kept the draught down and the bad symptoms appeared.

Dr. W. H. Judson, of Wauregan, Conn., writes me of the following interesting case. It presents the peculiarity that inhalations of amyl nitrite seemed to aggravate the woman's condition.

"Woman, 35; two children; organic disease of heart. Called in for neuralgia of trifacial. System free from drugs at time chloral

* Practitioner, 1870.
† (British Med. Jour.) Druggists' Circular, March, 1875.
‡ By letter.
§ Pamphlet, which I have not been able to obtain.
‖ By letter.

¶ Carlos F. MacDonald, Amer. Jour. Insanity, January, 1878. ** By letter. †† Lancet, December, 1870.
‡‡ Edin. Med. Jour., 1871.

was given. Gave ten grains or less, certainly not more. *Instantaneously* dropped as though dead; certain blanched, deathly look to countenance, but pulse was full but slow (say 50); no strength to move her limbs or body for over an hour. Roused up in about five minutes after collapsing, with the remark, 'I am dying.' Assured her she was not; gave her brandy, for which I had sent to a neighbor's; she became unconscious again, and continued more or less so for several hours; would rouse when spoken to, but always groan and say, 'I am deathly sick.' Pulse remained the same; respiration slow and rather heavy; did not notice pupils.

"Woman, farmer's wife, æt. 68; black hair; goitre of neck; tumultuous and irregular action of heart. Seven and a half grains gave sleep for two hours. Awoke with a scream; jumped out of bed; sat on edge; semi-conscious. Recovery in five minutes; asleep again for two hours; awoke with much epigastric pain. Liebreich's chloral in both cases."*

A letter from Dr. C. F. Rodgers, of ——, possibly bears out the warning given by Dr. Habershon. Chloral is one of those drugs that kill by either heart or respiration, and hence the drug, if given in diseases that tend to kill by the heart or lungs, may work considerable damage by giving impetus to the disease-tendency.†

I have seen two cases of pneumonia that would probably have recovered, in which chloral was used to procure sleep and control delirium. It did neither, but, if possible, augmented the trouble. I will never give hydrate of chloral in any inflammatory trouble hereafter: it will not do. I will only describe one case as a type of both:

A. B., aged 19, inflammation of right lung. Saw him in twelve hours after the attack. Pulse 115, full and hard; temperature 103; respiration 40; skin hot and dry; expectorating profusely. Prescribed, to relieve pain, a mustard-plaster; gave verat. vir., gtt. vi, every three hours; also pulv. Dov. and pot. nit., gr. x every three hours. By the second day he was much better, and I proposed to leave treatment and dismiss in a couple of days. At night he was in the following condition: Pulse 80, soft; respiration 28; countenance natural; decubitus right side; temperature 101; bowels had moved. I gave, to procure sleep that night, hydrate chloral, gr. xx, in two doses, as I did not wish to give any more Dover's powder. I saw him next morning. Had not slept much, was slightly delirious, and from this onward all the symptoms were aggravated, and he died three days afterwards. Tongue clean and moist after the second day to close of disease.

Dr. F. C. Shattuck, of Boston, whose opinion has already been given, agrees with Dr. Liebreich as to the fact that chloral aggravates the excitement of hysteria. Others, however, have used it in these affections with good results.‡ It has been used with good results in hysteria by S. T. Hubbard§ (three cases), James Donaldson,‖ London, England, and R. E. Sutton,¶ Rome, N.Y. James Perrigo,** of Montreal, has found it of advantage in hysterical epilepsy. J. R. Sample,†† of Summit, Miss., says that it is unsatisfactory, and D. N. Kinsman, of Columbus, Ohio, that it is uncertain.

As to its danger in icterus, I know nothing; none of my correspondents speak of it, and I have been unable to find anything in the literature of the subject upon it.

Dr. C. H. Hughes, of St. Louis, Mo., cautions against the constant use of small doses.

I have seen much mischief done by the constant and persistent saturation of the blood with chloral. If a patient has taken chloral in five- or ten-grain doses every hour or two, in a case of high cerebral excitement, for ten or more hours, and has not been sent to sleep for an interval of several hours by this plan, I would consider it dangerous to give a full dose of forty to fifty or sixty grains before an elapsed interval of from eight to twelve hours for elimination of the previous ineffectual doses, which have poisoned the blood and irritated and exhausted rather than tranquillized and recuperated the cerebral centres, whereas a single dose of forty to sixty grains, according to the intensity of the excitement, may be given with impunity when there has been no previous ineffectual action of the drug.

THE USE OF CHLOROFORM AFTER CHLORAL.

M. Fornet,‡‡ of Brest, basing his theory on the facts discovered by Claude Bernard regarding the prolongation or reproduction of chloroform narcosis by means of a dose of morphia, thought it would be of advantage to use another narcotic, giving it, however, *before* the chloroform. The

* Lancet; New York Med. Jour., 1872, p. 332.

† See article by the author, on "Therapeutics as based on a Study of Tendencies," New York Med. Record, August, 1880.

‡ Allbutt, Practitioner, 1870, p. 252.

§ New York Med. Record, 1871, p. 164.

‖ By letter. ¶ Ibid. ** Ibid. †† Ibid.

‡‡ Bull. Gén. de Thérap., vol. lxxxvii. p. 516.

drug he used was chloral, and, instead of giving it subcutaneously, he administered it by the mouth. He tried it in several cases successfully. In a little girl he produced sleep with a dose of thirty grains of chloral, and then caused her to inhale some chloroform. Complete anæsthesia resulted, and he was able to explore the bladder freely and satisfactorily.

The quantity of chloroform necessary is only from two to six grammes (about thirty to ninety grains).

The use of chloroform after chloral had been taken was, however, found to be very dangerous by Dolbeau.* In three cases, where the patients had previously taken chloral, chloroform produced decided symptoms of collapse, or a very strong desire to sleep, accompanied by great coldness of the surface and weak action of the heart.

One of the cases was that of a lady suffering from fissure of the anus; and it is to be borne in mind that M. Nicaise† claims that the "intolerant fissure" of Prof. Gosselin is generally accompanied by a well-marked condition of the nervous system that renders its subjects highly susceptible to the action of chloroform. Take the following for example. A lady of very nervous temperament, and pregnant two months, being the subject of the "intolerant fissure," was put under chloroform, and soon fell into a state of resolution without prior excitement. After dilatation had been practised, the patient was found to remain still in an alarming state of resolution, the thorax being quite immovable and the pulse very feeble. The various efforts at restoration had to be continued for three-quarters of an hour before respiration could be completely re-established. Vomiting was frequent. Although the quantity of chloroform used was very small, the patient was very near dying. To another nervous woman, forty years of age, chloroform was most carefully given, and after four or five inspirations she fell into a state of resolution without prior excitement. Dilatation was at once performed, and the patient came to almost directly,—the whole having lasted but a moment. Had the chloroform been continued, disastrous results might have ensued. In the case of a man aged 20, a few inspirations produced anæsthesia and resolution.

In other cases the subjects of fissure, M. Nicaise has not met with this excessive sensibility to the action of chloroform; but its possibility indicates the necessity of precaution. The depressing effect of the chloroform was most marked in the first of these cases, the slow form of death which seemed imminent differing from that commonly observed, in which life ceases suddenly and unexpectedly by syncope, the two forms being distinguished by M. Perrin as the adynamic and the conclusive. Other cases in which dangerous symptoms after chloroform have occurred, in the practice of M. Guyon (detailed, as well as those of M. Nicaise, in a recently published thesis by M. Ducamp), have comported themselves differently, there having been a prolonged stage of excitement, and the amount of chloroform consumed being much more considerable. Although none of his cases have proved fatal, they have been sufficiently alarming to lead M. Guyon to perform dilatation without chloroform, making it more instantaneous than by Maisonneuve's procedure, which, while rapid, is still progressive. M. Nicaise does not think that chloroform need be renounced in these cases, but that the surgeon should most carefully watch the phenomena produced while administering it himself, and proceeding to the operation the instant that resolution is produced.

In one of Dolbeau's cases, that of a gentleman with "a painful disease of the rectum," death followed this procedure. In the other two a fatal result was feared, but happily did not occur.

Guyon‡ had a case that nearly proved fatal from the same cause.

Demarquay§ has seen the same symptoms from chloroform alone in a weak, anæmic woman; also in another case. He seems to think that if both agents had been given death would have occurred, and he heartily condemns the procedure.

Perrin states‖ that he has given chloroform after chloral, and the patient recovered, after the performance of an operation, without any bad symptoms.

This method was proposed by M. Fornet for the purpose of lessening the danger following the use of chloroform alone. He seems to think that the danger is in

* Gazette des Hôpitaux, 1874, p. 1165.
† (Gazette Méd., March 18, 1876) Med. Times and Gaz., April 1, 1876.
‡ Gazette des Hôpitaux, 1874, p. 1164.
§ Ibid.
‖ Ibid., p. 1167.

direct ratio to the amount of chloroform used. This we know, from many recorded instances, is not the case, the first few inhalations causing death. Even if M. Fornet was right in this matter, the fact still stands that the method by chloroform and chloral is in itself very dangerous.

Dr. Chas. K. Mills,* of Philadelphia, says that where there is an idiosyncrasy with reference to the action of morphia, a previous dose of chloral does away with all bad effects; and Dr. H. M. Bannister,† of Chicago, Ill., says that he has found it to diminish the stage of excitement in etherization. He says, however, that he has not had much experience in this matter.

ON SOME POINTS IN MEDICAL ETHICS.

Read before the Philadelphia County Medical Society, November 10, 1880,

BY JOHN H. PACKARD, M.D.

MR. PRESIDENT AND GENTLEMEN,—An impression prevails in the minds of the public that there is among physicians a system of imperative but arbitrary and unreasonable punctilio, leading them, as I have repeatedly heard it phrased, to "let a patient die while they are arguing about a matter of etiquette." And even among members of the profession there is apt to be a somewhat mistaken feeling in regard to this subject. They too often have an idea that the Code of Ethics is a set of rules: they have a general desire to act up to it, but a certain indefiniteness as to what the rules are and what is their authority. In the belief that discussion of the subject may be useful, I venture to bring it forward this evening in a few somewhat desultory remarks upon certain points.

Let it be clearly stated, in the first place, that this code is *not* a mere set of rules as to what we may or may not do. Lord Castlereagh is reported to have said that he could drive a coach-and-six through any act of Parliament that could be framed. No law can be established that shall directly meet all the infinite varieties and combinations of circumstances which make up our daily life,—none that can control a body of men like the medical profession, and keep them harmonious, unless it is sustained on their part by the prevalence among them of a high moral tone. Yet, if there is such a tone, and a cordial desire to do right, if the prevailing sentiment is on the side of honor, there is scarcely any need of a law, scarcely any risk of its being transgressed.

Now, when we ask what the Code of Ethics *is*, we shall find it to be simply an endeavor to set forth the relations of physicians with one another and with the public, and to give, somewhat in the concrete, the results of experience upon the general principle which underlies the whole matter.

This general principle is a law through which not even a gnat can creep. No situation can arise in which it is not a safe and adequate guide. It is the simple rule given by the founder of Christianity,—to do to others as we would that they should do to us. Interpreted by common sense, we shall find that this meets all the necessities of every case.

And here let me admit that our Code of Ethics is to me very unsatisfactory. It is so because it does not anywhere give a clear and distinct statement of its fundamental principle; because it is sometimes in the highest degree vague and general, sometimes exactly the reverse. Moreover, as I shall presently try to show, it does not, especially in some of its more concrete directions, accord with the conditions and customs of professional life at the present day.

Professional ethics may be as completely violated by a shrug of the shoulders, by a raising of the eyebrows, or by an inflection of the voice, as by the most flagrant quackery. Against such offences the code itself is powerless, while the observance of its principle would effectually preclude them. A few instances only can be discussed in this paper, but they will serve to show the correctness of the ground now taken.

I have heard the question raised whether a physician had the right to send his prescriptions to a particular drug-store, and an argument of some length held upon it. I have heard bitter complaint made because medicine was ordered by numbers understood only by one druggist. Now let us look into this matter a little.

My business runs in a special direction,—suppose in that of eye surgery or skin diseases,—or I have confidence in a certain

* Phila. Med. and Surg. Reporter, November 9, 1878.
† By letter.

article which, in my opinion, requires a particular method of preparation. Frequently prescribing this, I choose to be sure that my patients get what I order. Now, either for this reason or to save my own time, I arrange with a druggist that No. 1 means such a combination, No. 2 another, and so on. A patient comes to me to ask for advice about himself. What is my prescription? It is simply a formula by which he shall be enabled to get what will suit his present condition. He has no right in it for indefinite use. I cannot be held answerable if, for instance, having a mercurial ordered for him, he goes on renewing and taking it until he is salivated. He has no right to give it to other people whom he may suppose to be affected as he is or was. If I choose to send him to a certain drug-store to get what he needs, I have a right to signify, in any convenient way, what he is to have dispensed to him. For the suitableness of that article to the relief of his condition at the time it is prescribed, and for that alone, I am responsible.

All this is, it seems to me, simple common sense. If now a brother physician asks me for the formula of my prescription, and I refuse to give it, or if I arrange with the druggist to whom my patient must go that he shall pay me a percentage on his receipts for my prescriptions, it is equally common sense that I am infringing the rights of others, and violating the great principle of the Code of Ethics.

Let us now consider another matter. If a physician is called to see a patient in an emergency which has arisen in the course of a sickness, it is clearly his duty to ask who is in attendance upon the case, and to desire that he should be immediately notified. Circumstances must decide whether the first named should simply do what is needful and retire, or await the arrival of the attending physician.

But suppose the case is one of sudden sickness, or of accident. Now, while it would be much better for the physician who is called in to ask who is the family physician, it is not absolutely obligatory upon him to do so. The family physician, indeed, is in a great measure an institution of the past, at least in large cities. There are cases in which it is well known to the practitioner who is thus summoned that the family have usually employed a certain doctor, and then it would be the right thing for the former to ask to have the latter notified. Indeed, it would be not only the right thing, but, to take a lower view of the matter, it would be better policy.

Should the family mention that they have considered Dr. So-and-so their regular attendant, it ought by all means to be regarded as an intimation that he should be notified. Or if, as is often the case, different members of the family have each their physician, it is better to avoid all semblance of interference. And any hint of want of esteem for or confidence in his fellow-practitioner, on the part of the doctor who is brought in on an emergency, is clearly a violation of the great rule.

If the family distinctly request the physician who is thus called in to take charge of the case (where there has not been previous attendance), he has a perfect right to do so; but if he is aware that the family or the patient had within no long time been under the habitual care of another, it would be both courteous and friendly to seek an understanding in the matter with the former attendant. I have known bad feeling to be prevented by this course in more than one instance.

Now, let us suppose that the physician called on in a serious emergency is informed that the attendant is a homœopath. There are too many among us who hold—to parody a well-known phrase—that a homœopath has no rights that a regular physician is bound to respect. We cannot consult with homœopaths, for, if they are honest in their faith, we have no common ground of discussion with them. But we should remember that they have the right to be considered honest in their convictions, in the absence of proof to the contrary. And it should be further remembered that the patient has rights to be respected. Equally, also, we owe it to ourselves and to our profession to show an example of right feeling and of true dignity. Hence I should say that, under the circumstances supposed, the physician should institute such measures as he deems proper, just as if the attendant were of his own school, without raising any argument with the family or friends. If they decline or criticise his aid, he, of course, merely retires. If circumstances demand his remaining until the arrival of the physician, I should say it would be proper for him simply to state what had been the condition of things on his being summoned,

what his view of the case was, and what course he had pursued, and then courteously but firmly to decline any further consultation. This, I submit, would be doing right; and, no matter what might be afterwards said (and unfortunately such things are not always either properly managed or correctly reported), the physician would, I think, have that greatest of all comforts, the approval of his own conscience.

Next, as to the matter of consultations. These, says the Code of Ethics, "should be promoted in difficult or protracted cases, as they give rise to confidence, energy, and more enlarged views in practice." This seems to me to be one of those glittering generalities which tend simply to lessen the authority of the code. Consultations, I think, should be avoided, unless they are really to be of service to the special case in hand. They involve an expense which many families can ill afford; they require the appointment of a fixed hour for the visit, and almost always occupy extra time. Still, if the physician feels the need of counsel, or wants responsibility shared, it is eminently proper for him to call for the advice and help of his brethren. What I object to is the idea that they are always desirable. And of one point I am sure: that the physician in attendance should be allowed to exercise his own discretion in the matter. He may think it proper to strengthen his own position; but if he feels that the family have not confidence in him, and he knows himself to be fully competent, it is sometimes a better plan for him to retire from the case rather than be forced to call a needless consultation.

It is often said that the consulting physician should never supersede the attendant or allow himself to be called in, except in his original capacity as an associate. But if the family designate him, and they afterwards want to employ him, he has a perfect right to respond to the call without any offence being taken by the former attendant. If, however, the latter selects the consultant, and introduces him to the family or patient, the case is quite changed. A physician so introduced should decline to have anything to do with the case, or to attend in the family afterwards, except in consultation with his introducer, unless the latter signifies his full and free consent. The reasons for this distinction, which is also to be drawn in the case of a substitute, seem to me to be too clear to require any argument.

The question is sometimes raised, Suppose there is, in a consultation, a difference of opinion as to important points, are all the physicians concerned bound to assume a position of consent before the family, or, it may be, before the public? This seems at first sight to be a difficult matter to settle; but let us apply our touchstone.

Differences of opinion will arise which cannot be reconciled; each man has a right to sustain his own view, so far as his honest convictions go. But if one party yields, and the result as announced to the patient and family is given as the decision of the conclave, then it should be loyally adhered to by every one of those concerned. If one out of five consultants entertains an opinion irreconcilable with that of the other four and upholds it among them, he has a right to do so anywhere; he is not bound to submit to a majority and smother his own convictions, nor is he bound to accept responsibility for a course from which he has declared his dissent. Propriety and good feeling would forbid his going about and exulting in the independence of his views, but self-respect would compel him to assert them on suitable occasion.

Before quitting the subject of consultations, there is one point which I wish to dwell upon, as experience has shown me its importance. A consultation having been held, the family or friends of the patient are often desirous of getting a private opinion from the consultant. Now, the supposition is that the regular attendant will communicate the opinion arrived at to those who are entitled to hear it, and that he will do so as fully and honestly as possible. I have known much dissatisfaction and want of confidence to result from an apparent discrepancy between the views thus expressed by the two parties, and on one occasion the consultant gave an opinion directly opposed to that he had formerly concurred in, probably because the impression on his mind had become confused and erroneous from the lapse of time and the intervention of other cases.

I would urge, therefore,—although indeed this matter may be thought to belong rather more to etiquette than to ethics,—that all communication with a patient or his family in regard to the case should be through the attending physician, or at

least in his presence; that the consultant should not permit himself to be "pumped," or drawn into anything like heedless gossip on the subject, which may do much harm.

And here I must say a few words as to our modern friends, the specialists. The time has been, not twenty years ago, when a formal report was made to the American Medical Association condemning the practice of specialties *in toto*. This prejudice was based upon what we now regard, and I think with justice, as narrow and partial views. Provided there is a liberal and comprehensive education in medicine, the devotion of special study to certain branches is clearly a benefit to the profession and to the public. And indeed the field of medical literature, the activity of research in modern times, is so vastly greater than in former days, that the man who would keep up with the advances made in all departments would have no time to put the knowledge he gained into practical use.

But it should be remembered by those who thus give themselves to the pursuit of certain branches of practice, that they have still to maintain their loyalty to the great body of the profession. If the oculist or the surgeon avails himself of his acknowledged ability in his own specialty to decoy away the patients who are sent to him by others less skilled in that department, he will find that the slight temporary advantage he thus gains will result in ultimate and far greater loss. The same rules should be held to apply to him, and should be faithfully observed by him, as are obeyed by the profession at large. A surgeon called in to attend a gunshot-wound, or to excise a tumor, should confine himself to his function; and if a member of that family comes to him and says (for instance), "Doctor, we were so pleased with your attention and skill in my father's case that I thought you would be able to cure my dyspepsia," he should remember what is due to his profession and to himself. Loyalty to his brother practitioner will tell him just what to do.

Then there are many cases in which, with the occasional assistance of a specialist, the general practitioner can conduct the treatment with ample ability. Here—and I speak from actual observation—there is sometimes an insidious assumption of superior skill and knowledge, a hinting at the necessity of very special qualifications, which borders far too closely upon what would be recognized at once as quackery.

A few words upon the distinction between *medical ethics* and *medical etiquette*. The former must always stand, so long as the practice of medicine is anything more than a mere business; the latter, in accordance with the prevailing fashion of the day, has nearly disappeared with the wigs, the black suits, and the gold-headed canes which constituted the regalia of our forefathers in the profession.

It would be idle to trace the process of this disappearance. But there is no longer the solemn order observed of entrance into and exit from the sick-room. Seldom indeed does it happen in private practice that more than two physicians meet in consultation. No longer does the array of learned members of the faculty, each in his turn, deliver himself of his opinion. The chance is that the discussion begins in presence of the patient, and that some one, bolder and more outspoken than the rest, does most of the talking, to which the others merely give their assent.

Equally idle would it be to ask whether this is a loss. We cannot return to the old way. It would be at variance with the whole spirit of the social life of the day. It suited the former time, but it would not suit the men of the present.

The great point is that we should not allow this decadence, if it may be so called, to extend to the weightier matters of the law. Whatever be the standard of manners, whether the starched formality of the gentleman of the old school, or the free and easy familiarity of the nineteenth century in its second half, the controlling principle of professional conduct should be one and the same. And this is true in all the varied relations which we sustain among ourselves, to our patients separately, and with the public at large.

The great reason of our existence as a profession is that there is human suffering to be relieved. Wherever this may be found, physicians are ready to go and to act,—as ready now as they were in any former time. Nay, more, we recognize now in a fuller and higher degree than did our predecessors, that our duty is not only that of curing the ills that flesh is heir to, but of preventing them by the study and correction of their causes.

Giving, as we do, the best years of our

lives to the work of preparing ourselves for the accomplishment of these high aims, we render a service to mankind, for which it is but just that we should be paid,—a great service, for which it is but just that we should be well paid. Hence there is between us and the public, between each physician and those under his care, a business relation; but it behooves us to look well to it that we keep this in its proper and subordinate place. If we are to maintain the high social esteem in which, in this country at least, we stand, it will not be by reason of our indispensableness, the vastness of our knowledge, or the cost of our services; it will be because there is plainly traceable in all our conduct in every relation the influence of a pure and lofty principle, founded upon an unalterable basis. What that basis is, it has been my earnest endeavor to set forth in these desultory remarks.

In concluding, I would offer two suggestions: first, that the Code of Ethics might well undergo some revision, to adapt it to the changed order of things and to make it a more efficient guide for professional conduct; secondly, that it would be an excellent thing to explain this subject to students before graduation, so that they might not assume the duties and responsibilities of practice without some definite idea as to their own rights and the rights of others.

THE INJURIOUS EFFECTS OF THE CONSTANT USE OF BABY-CARRIAGES AND BICYCLES ON THE PHYSICAL DEVELOPMENT OF THE YOUNG.

Read before the Philadelphia County Medical Society, November 10, 1880,

BY HENRY H. SMITH, M.D.

AS the natural attitude assumed by man is that which is most favorable to his locomotion, and as this, contrary to the locomotion of animals, is the erect or vertical position, he holds it, in the exercise of walking, by such muscular efforts as preserve his equilibrium. To accomplish this, he is endowed by nature with two grand classes of muscles (flexors and extensors), each of which, in the state of nature, is capable of antagonizing the other, so as to resist the force of gravity, or the inclination of all bodies to be drawn towards the earth's centre.

In standing, this line of gravity falls perpendicularly on the base that sustains the body, or upon the feet. In sitting, the base of support is the pelvis, the centre of gravity being found between the pubis and the sacrum, the vertebral column being also so arranged by a series of antero-posterior curvatures as to maintain this vertical line through the shape of the various pieces of the column, aided by the varying thickness of the intervertebral cartilages as well as by the posterior and anterior vertebral ligaments. These structures, offering only a partial resistance (as may be shown by attempting, in a ligamentous preparation, to keep the head and spinal column in a vertical position), are greatly aided, indeed, mostly sustained, by the muscles found on the back and front of the column, and especially by such as are connected also with the pelvis; such as the sacro-lumbalis and longissimus dorsi, aided by the spinalis dorsi; or the entire set of muscles sometimes described as the erector spinæ.

In addition to these powerful erector muscles, we find the semi-spinalis dorsi and the multifidus spinæ participating in preserving the equilibrium of the trunk; whilst, from some of the connections of many of them with the ribs, an influence is exercised by their action on respiration and thoracic development.

As the power of every muscle is increased by its exercise, it is an important point in the physical development of children that this fact (muscular action in the erect posture) should be impressed by the physician upon the minds of all who control or direct their physical education, especially in infancy.

Ordinarily, infants preserve two attitudes, one passive, the other active, the latter chiefly contributing to their proper growth. When a child lies down, as it usually does in a baby-carriage *during infancy*, it reposes upon an extended base, and, as the force of gravity is barely felt by it, the muscles of the spine remain nearly at rest. When a child sits up, most of its spinal erector muscles are in action, though varying in intensity. The vertical position, or that in which an infant sits upon its nurse's arm when carried, necessitates a balancing of the head and upper extremities upon the infant's pelvis; with alternate action of the erector spinæ muscles and those of the abdomen that flex the spine by bringing the thorax towards

the pelvis; as well as of those which cause a bending sideways or give the lateral motion to the body, as the quadratus lumborum and psoas magnus muscles. Hence, when a child is carried on the arm, its exercise in preserving its balance or equilibrium prepares its muscles for the more steady action demanded of them subsequently in creeping; or, more especially, in walking.

A child that is carried is therefore being constantly educated or trained in balancing its head and shoulders; whilst the abdominal muscles, which here act as flexors of the spine, also compress the liver and other abdominal viscera and aid the peristaltic action of the bowels, as well as the action of respiration. In addition to this, such infants are sooner able to sit alone, and creep or walk more vigorously, than those who in the continued supine posture of the baby-carriage fail to receive this muscular exercise. With the increased expansion and contraction of the thorax there is also improved respiration and oxygenation of the blood-corpuscles; whilst the waste of tissue that ensues on muscular action creates increased necessity for repair, and we therefore have increased appetite, with improved digestion and nutrition.

The advocates of the use of baby-carriages contend that they are beneficial by keeping an infant longer in the fresh air than can be done when it is carried by a nurse, who soon becomes fatigued.

This is certainly not true in many instances, as a woman who is not strong enough to carry an infant, even if it weighs twenty-five pounds, is physically unfitted for her duty as a nurse. Such an objection is very apt to be raised by the nurses themselves, and should be regarded with suspicion by the mother. Often it is evidence of laziness or a fondness for flirtation or talking, as may be noted at any time in our parks or squares, and especially in Rittenhouse Square, where many nurses of wealthy children can be daily seen amusing themselves by the hour, totally regardless of the infant, who may be likewise seen with its head hanging out over the side of the carriage, so as to compress the veins of the neck and induce a certain degree of congestion of the brain, if it is not found in some equally improper and injurious attitude likely to result in curvature or caries of the spine, the origin or exciting cause of which it is subsequently difficult to recognize.

Another evil liable to ensue from the constant use of the baby-carriage is the jarring and concussion of the delicate brain and spinal cord of the infant, created by bouncing the carriage over gutters or up and down the curbstones of our sidewalks. This evil is quite as serious to the infant as the concussion of the spine alluded to by Mr. Erichsen as the result of railroad-travel, is to the full-grown man; the nervous system of the child being very easily impressed by jars or concussions.

The baby-carriage mania has now reached that point in Philadelphia that an infant and a coach appear to be inseparable, and, though the cost of a baby-carriage is quite an item in the expenses of the nursery, "few there are so poor as not to do it reverence." Of course, it is admitted that there may be instances where the use of a baby-carriage occasionally by a child able to walk a little, or where the carriage permits a poor, tired mother to obtain for herself a little relaxation whilst keeping her baby in its carriage in the Park, or in the case of feeble children or those recuperating from an attack of illness, is advantageous; but, as a general rule, the anatomical and physiological facts just alluded to may be deemed as sufficient to induce physicians to give attention to the abuse of a custom that is by no means the result of necessity in the case of infants or those under twelve months of age.

The use of the baby-carriage is also quite a modern fashion, and mainly consequent on a residence in a large city and a so-called fashionable neighborhood. In the country, a baby-carriage is almost unknown, and the infant is much sooner left to take care of itself on the floor and exercise its own muscles. A few years since, a nurse who was asked to drag or push a baby-carriage would refuse to do so, saying, "Does the likes of yez think I am going to make a horse of meself?" Now, they complain of being expected to *carry* a baby.

In support of these views—viz., the evils liable to result from the continued use of the baby-carriage by infants—I have noted the following facts:

An infant now nine months old has never been allowed to enter a baby carriage, but has taken its exercise out-of-

doors, for several hours at a time, on its nurse's arms. It is now (nine months) able to sit alone; creeps around actively; seldom falls or bumps its head; is bright and observant of everything; creeping to obtain any article that attracts its notice. It has a bright color, nurses and sleeps well, and has had no trouble in teething, its digestion being perfect.

Another child, much larger, and weighing twenty-seven pounds, has been kept constantly in its carriage, this being regarded as an excellent place for it to sleep in during the day. It is at present entirely unable to sit erect, even when aided by pillows; has a feeble digestion, suffering constantly from flatulent colic, and is altogether much more passive in its physical and mental habits than the other child. Both have been suckled.

The question seems, therefore, to be worthy of investigation,—"Whether the constant use of the baby-carriage is not entailing serious injury on infants or those within the year?"—and I have thought it deserving of the notice of the Society.

Some years since, the "baby-jumper," or a mechanical arrangement by which a child sat astride of a broad band so suspended that its toes could barely touch the ground, was quite the fashion, as it enabled the child to take care of and amuse itself whilst taking exercise by a species of jumping, in which it was aided by the elastic bands from which it was suspended. The development of pes equinus, caused by the constant touching of the earth by the toes as the child strove to obtain its spring, or a change of fashion, soon led to its being given up, so that to many persons it is now a thing unknown.

A somewhat similar deformity is, I fear, likely to be created by the use by young and growing lads of the bicycle, the extreme flexion of the toes to reach the treadle that works the machine causing too much action of the flexors of the toes, as well as of the gastrocnemius and soleus muscles, thus also inducing pes equinus. I will say nothing of the creation of fractures of the radius and other injuries that frequently ensue on falls from the bicycle, as with these all are familiar. If, as is probable, this means of locomotion is with some to supersede the more advantageous exercise of walking, let at least special attention be given to the length of the rider's leg, and let it be seen that the treadle is not so far from the sole of the foot as to necessitate a constant elevation of the heel in order that the toes and ball of the foot can reach the point of progression.

The subjects to which I have thus briefly invited the attention of the Society are some of those which, though of daily observation and seriously affecting the proper development of the young, have not, as far as I know, been discussed professionally. Sanitarians are, however, beginning to note the effects of these injurious fashions upon children. The *Sanitarian*, of New York City, reprints in a recent number an article from the London *Lancet* on "Children's Hats," objecting to the senseless fashion of turning up the brim of the hat in Tyrolese or Spanish fashion, so that "infants and little folks of tender years have half-closed eyelids, corrugated brows, and faces screwed up by the glare of the sunshine, from which the brim of the hat, if correctly used, ought to protect them."

More than one hundred years ago, Addison, in the *Spectator*, said, "The most improper things we commit in the conduct of our lives we are led into by the force of *fashion*,—a prevailing custom making us act against the rules of nature, law, and common sense." The lapse of time, and the enlightening of our people by the increased facilities of education, do not appear to have materially modified the popular folly against which Addison at that time wrote in England, and *fashion*, not common sense, now, as then, appears to sanction many customs that are contrary to the laws of nature.

In calling attention to the violation of these laws by the public, the medical profession exhibits the humanity and benevolence that is its noblest characteristic, and this Society has shown its appreciation of such duties in establishing a special committee "On Hygiene and the Relation of the Profession to the Public," as well as by special investigation of the vision of the thousands of children in our public schools, and other similar measures. To discuss, therefore, the evils liable to result from the fashions alluded to in this brief paper, especially as their continuance is liable to impair the symmetry and corporeal activity of the next generation, cannot be regarded as otherwise than a humanitarian action on our part.

LIQUOR ERGOTÆ PURIFICATUS.

BY F. LESSING, M.D.

AT the meeting held by the College of Physicians, October 13, reported in full in the *Times*, I notice that comparatively little credit is bestowed upon the hypodermic use of ergot in hemorrhage incident to parturition. I have had, this summer, two terrific "bleeders," and I assure the profession that the above preparation saved my patients, although the hot injections were used freely.

I cannot recommend the above too highly. It is manufactured by Park, Davis & Co., of Detroit, Michigan; does not create inflammation or abscess; can therefore be used with impunity. In the cases mentioned above I did not count drops, but simply filled my syringe, injecting as near to the uterus as possible.

Again, I may be at liberty to mention the position of those bleeders, which was seemingly very little discussed. I am in the habit of not only elevating the podex well, but also of having their thighs well flexed, so as to give the uterus full *play*-room for contraction. How the Crédé method can be so much recommended remains a mystery to me, for heretofore I have not come across a patient who could stand the smallest pressure or manipulation of the uterus without shrieking with pain.

WINONA, MINN., December 21, 1880.

"CRÉDÉ'S METHOD."

BY JOHN W. SNOWDEN, M.D.,

Waterford Works, N.J.

AT the meeting of the Philadelphia County Medical Society held October 13, during the discussion on a paper entitled "Hemorrhage incident to Parturition," Professor Goodell, in allusion to Crédé's method of delivering the placenta, said he did not believe this plan had ever been practised by Dr. Atlee or by any one else before it was devised and recommended by Crédé,—at least, such a plan had never been described or published by any other physician.

I know that Dr. Warrington taught this method in 1843 and 1844, as I was a pupil in his "Obstetric Institute" for one year, and was his assistant for a short time before I left Philadelphia.

I have heard him make use of the very same expression as Professor Goodell. He would tell his class to "grasp the uterus in such a way as to squeeze the placenta out, as you would force the stone out of a cherry."

TRANSLATIONS.

DORSAL DISEASE OF THE TOES.—Prof. Dubreuil (*Gaz. Méd. de Paris; La France Méd.*, 1880, p. 673) recently delivered a lecture on the affection to which he has given this name. It begins by the formation and inflammation of a serous sac abnormally developed beneath a bunion which has developed on the dorsal surface of certain toes, ordinarily near the articulation of the first and second phalanges. When no deviation of the toe has taken place, the serous sac does not usually become inflamed, but if the toe is crooked, especially if the apex of the angle formed by the first two phalanges is upward, so that it is exposed to friction and pressure, inflammation takes place and runs through its various stages. The ordinary corn is an accumulation of epithelial cells which penetrate by a sort of root into the derma. In the bunion, on the other hand, epithelial cells are found in the upper part, while lower is the rete Malpighi intact, and lower still a papillar hypertrophy, frequently very marked. Finally, below the derma is a serous sac, situated immediately upon the extensor tendon. Many persons carry a bunion for years in an indolent condition. Some unusual exposure, as in a forced march, may cause inflammation of the serous sac. Effusion takes place, and an abscess forms, which appears on the dorsal surface of the toe. This opens and terminates in a fistula, from which issues a sanious fluid. Whenever the individual takes a long walk this toe becomes tumefied, red, and painful. Rest brings relief. If neglected, the inflammation finally penetrates to the articulation and destroys the cartilage. The prognosis then becomes grave, and disarticulation or amputation may have to be resorted to. As to treatment, when the tumor is indolent the toe should be straightened if in a vicious crook. Inflammation of the sac is to be combated with emollients. Where pus has formed, it must be given vent, and the fistula scarified or cauterized with nitrate of silver to

the bottom of the cavity. If the articular surfaces are involved, disarticulation, or, better, amputation in the continuity of the first phalanx, should be performed.

Physiological Action of Conium Maculatum. — At a recent meeting of the Académie des Sciences (*Bull. Gén. de Thérap.*, 1880, p. 365) M. Bouchefontaine alluded to the fact that in 1878 he had, in collaboration with M. Tiryakian, presented a paper on conium maculatum which went to show that hemlock owes its properties to two active constituents,—one, conine or cicutine, paralyzing the central nervous system, the other acting like curara. In 1879 M. Prévost, of Geneva, presented a note to the Academy, in which he considered the bromhydrate of cicutine as a paralyzant of the motor nerves.

Bouchefontaine, by recent experiments, has satisfied himself that conine diminishes or abolishes the physiological properties of the nervous centres before acting, like curara, on the nervo-muscular cement-substance (*substance jonctive*). On the dog and frog this alkaloid always ends by abolishing the nervous excito-mobility if it is given in sufficient quantity, but it is then fatal to batrachians and mammifers. Its action is therefore different from that of curara. The effects of the bromhydrates extracted from hemlock in a crystallized condition are as follows:

They are to be divided into two groups. One is composed of amber-colored crystals, is more toxic than the other, acts like conine, and represents the most active principle of hemlock. The other variety of crystals, which are less poisonous, are colorless or of a pearly lustre, and resemble those obtained by Prévost. They act differently, however. As to the comparative action of hemlock and curara, this may be formulated thus: hemlock may act like curara, but it produces, in addition, certain physiological effects not observed in animals to whom curara has been administered.

Action of Collodion on the Temperature.—Raducasi, in his thesis (*Bull. Gén. de Thérap*, 1880, vol. xcix. p. 380), comes to the following conclusions. 1. The application of flexible collodion on the central temperature in the physiological condition is variable according to the locality covered. 2. Applications made to the limbs have no influence on the central temperature. 3. If the application is made over the entire cutaneous surface corresponding to the peritoneum or to the pleuræ, an immediate lowering of the central temperature takes place. 4. The comparison of the action of the application made on a cutaneous surface corresponding to a serous membrane with that produced on a cutaneous surface corresponding with masses of muscular tissue may perhaps explain the therapeutic action of collodion in inflammation. 5. The action of collodion on phlegmasiæ, whatever its nature, is beyond question.

Fracture of the Humerus dependent upon Muscular Contraction without Previous Disease of the Bone. — E. Belajew (*Cbl. f. Chir.*, 1880, p. 720; from a Russian source), having had his attention attracted to Foster's case (see *Medical Times*, No. 334, 1880), reports the case of a school-boy of 15, in whom fracture of the junction of the middle and upper thirds of the humerus had taken place, with slight lateral dislocation of the fragments. The patient enjoyed perfect health, without a trace of rachitis or osteomalacia. He had been playing with his comrades, when, on throwing a metal plate of about a pound weight with all his force, he suddenly felt a cracking in the right shoulder, with severe pain, the arm falling helpless by his side. Under appropriate treatment the fracture united within five weeks.

Medicinal Uses of Indian Hemp.—Dr. Michel (*Montpellier Méd.; Bull. Gén. de Thérap.*, 1880, p. 380) again calls attention to the value of Indian hemp, particularly in the treatment of uterine affections. He proposes the following formula in metrorrhagia:

℞ Tincturæ cannabis indicæ, ʒss;
Syrupi simplicis, fʒj;
Aquæ ad fʒviij.—M.

Sig.—A teaspoonful every five or six hours.

His experience leads to the following conclusions. 1. The action of Indian hemp is double,—excitant in small doses, in larger ones sedative and even hypnotic. 2. Of use in most nervous affections, it is particularly valuable in chorea, tetanus, certain cases of mental alienation, delirium tremens, and neuralgia. 3. The muscular tissue of the uterus is particularly sensitive to its influence; metrorrhagia is stopped by it, and the uterine contractions so increased that it might be substituted for ergot.

Local Anæsthesia by Bromide of Ethyl.—Terrillon (*Bull. Gén. de Thérap.*, tome xcviii. No. 7) prefers this anæsthetic to ether for local use, (1) because it can be used without danger after dark, being non-inflammable; (2) it has a very slight odor; (3) less is needed than when ether is used; (4) the wound is not irritated, and the pain after anæsthetization is less marked; (5) no ice-crust forms on the frozen spot; (6) the thermo-cautery can be used with ease in bromide-of-ethyl spray.

The tissues become frozen after two to three minutes. By the thermometer, the temperature falls at the same time to 15°. Bromide of ethyl has a specific gravity of 1.40, boils at 40.7° C. (105.2° F.), is easy to prepare, and very stable. Terrillon has used it in numerous cases with the best results.

Poisoning by the Seeds of the Ricinus Communis.—M. Lugeol (*Bord. Méd.; Bull. Gén. de Thérap.*, 1880, p. 431) calls attention to the danger of poisoning by the seeds of the ricinus. These, he says, are of an agreeable taste. A woman took, at three o'clock in the afternoon, six seeds. In the middle of the night she was awakened by vomiting, with violent colic, accompanied by choleric diarrhœa. The symptoms were exactly those of an attack of cholera morbus,—eyes sunken, pulse feeble, cold skin, muscular cramps, with extreme pain. The patient was given alcohol and acetate of ammonia, while hot applications were made externally. She recovered.

Menstruation at Seven Months.—Dr. Cortejarena (*El Siglo Médico; Le Réveil Médical*, 1880, p. 202) reports the case of a child who menstruated regularly at seven months. At twenty-eight months it seemed, by its rounded figure and turgescent mammæ,—as large as citrons,—its well-developed vulva and clitoris, to resemble a little woman. There was nothing in the mental or moral development of the child corresponding to this precocious physical evolution.

Phosphate of Bismuth as a Substitute for the Subnitrate.—Dr. Tedenat (*Union Pharmaceutique*) prefers the phosphate of bismuth to the subnitrate. The anti-diarrhœic effect of the phosphate is exercised in the same manner as that of the subnitrate, but it may be given in smaller doses, one to two grammes (15–30 grains) as a general thing. It is administered in the same way as the subnitrate, either in powder, in suspension, or in pastils.

Nerve-Stretching in Sciatica.—Hildebrandt, in the case of a woman of 32, the victim of sciatica, laid bare the ischiatic nerve in the popliteal space, and stretched it in both directions as far as possible six times. The pain ceased immediately, and did not return. In a second case, where a young man suffered with stiffness in the right finger, with pain, following a thorough wetting, the brachial plexus was stretched, with the result of a perfect cure.

Ointment for the Chronic and Subacute Pains of Gout and Rheumatism.—Dr. Lenoble suggests the following formula: Caoutchouc (finely cut), myrrh, canella, and salicylate of sodium, of each ten grammes (one hundred and sixty grains); sufficient essence of turpentine to bring to a fluid consistence. The joints to be rubbed thrice daily, and covered with raw cotton.

Prolapse of the Vagina in the Virgin.—Dr. Guillermet (*Jour. Méd. de l'Ouest; Le Réveil Médical*, 1880, p. 119) reports the case of a girl of 18 frequently affected with prolapse of the rectum, who, after an invalid infancy, had begun to menstruate at fourteen. One day, after long and severe efforts at defecation, she found a tumor between the thighs, which, on examination, appeared the size of two fists, of a vinous color, large at the bottom and narrow towards the vulva, confined by a constricting ring. A sort of strangulation had taken place, with œdema. In the centre an orifice with radiating folds permitted the introduction of the finger, which, however, failed to find the cervix uteri. The reduction of this tumor was a matter of some difficulty, but was accomplished. A month later the hymen was found intact, its opening in the form of a longitudinal slit. The vulvar ring was firm and tight. No prospect of relapse.

The prolapse of the vagina without involvement of the uterus is very rare. In the case of this young girl it was due to predisposing feebleness of constitution, habitual constipation, and efforts at defecation. In another case quoted, the uterus also was involved. The patient, although a virgin, showed relaxation of the vulvar ring. Cure was effected by excision and suture of a portion of the anterior vaginal wall.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, JANUARY 15, 1881.

EDITORIAL.

SURGICAL MALPRACTICE-SUITS.

TWO very curious legal cases have recently occurred which threaten to add to the difficulties or perils that already environ the work of the surgeon, and require that attention should be directed to them. The full details of the New York case may be found in the *Medical Record* of December 15, but the essential features can be stated in a few words.

Dr. Noyes was operating upon the right eye of a patient suffering from double cataract, when he found that the pupil was so blocked up by an intraocular membrane or growth that no good would result. Without arousing the man from his anæsthesia, the surgeon then operated upon the left eye, ceasing from his efforts upon the right. The result was bad, and the patient sued, basing his claim for ten thousand dollars damage upon the fact that he had only consented to have his right eye operated upon.

All the lawyers seemed to agree in the opinion that if no consent is given to an operation the surgeon is liable; but the point to be decided was how explicit that consent must be. It is absurd to deny a surgeon the right to modify his operation when he finds unexpected difficulties; but it is also plain that careful men will hereafter get the consent of patients to do what may seem best to be done whilst the operation is going on.

We have not seen the charge of the judge, but the *Record* says,—

"Judge Russell stated in his charge that he could find no records of a similar case; that it was an extraordinary one, in that it brought up the question as to what constituted legal permission,—whether or no there was reasonable ground for the doctor to assume that his proposition was consented to. But the point in law which has perhaps as much importance to the surgeon as any other brought out by his honor is the charge that the patient, under the excitement of an impending operation, was not competent to revoke any authority previously given regarding the character or extent of the operation. The jury disagreed, but brought in a verdict of ten to two in favor of the defendant."

The second case is reported in the *London Medical Times and Gazette* for December 11. In it a servant-girl was suspected by her mistress of being *enceinte*. A medical man was sent for, and the girl examined. She afterwards sued both mistress and doctor for assault and battery. The case was argued several times, elicited antagonistic rulings from different judges, and resulted in a non-suit in favor of the mistress and acquittal by a jury of the doctor. The patient swore she did not consent, but the jury seemingly did not believe her. As one of the judges ruled that "a submission to what was done, obtained through a belief that she was bound to obey her master and mistress, or a consent obtained through fear of evil consequences to arise to herself, induced by her master's or mistress's words or conduct, was not sufficient," explorations of the purity of servant-girls would seem to be even more risky than the practice of medicine.

WE have received from the publisher, Mr. Theodor Fischer, of Cassel, Germany, copies of Dr. Paul Börners Reich's "Medicinal Kalender" for 1880 and 1881, a work of whose existence we must confess to previous ignorance. The first part of these calendars is a pocket-book similar in its scope to an American visiting-list, but of a ponderosity befitting the heavy intellectual and muscular development of sons of the Vaterland. The second volume is that which will most interest foreigners. It is really a complete directory of the physicians of Germany, including such information as usually finds place in our medical directories. The medical faculties receive due notice; the royal family is not slighted; the various local

and general laws regulating the profession are analyzed; schedules of fee-bills abound; medical and scientific societies, with their presidents and secretaries, are tabulated; and the medical *personnel* of the great German army is fully considered. Each book contains such a mint of information that we shall place them in the library of the College of Physicians, where those who desire may find them.

CORRESPONDENCE.

LONDON LETTER.

THE subject of the dispute at Guy's Hospital still occupies the attention of the profession, and any practical solution of it seems still shrouded as much as ever from sight. The senior physician, Dr. Habershon, and the senior surgeon, Mr. Cooper Foster, have resigned their posts, after many long years of service in connection with the institution. What effect this step will have upon the contending parties it is not easy to say. The lay governors show no signs of giving way; the medical staff are "solid;" so what the issue will be will reveal itself in time. It appears that at one time the committee contained several medical men; but how their places were filled up by laymen, instead of by other medical men, probably involves obscure petty politics in the past, and suggests "ways that are dark," if not "tricks that are vain," judged by their outcomes as manifested in the present imbroglio. It is that want of loyalty to their profession manifested by certain members of it which leads to troublesome consequences in time. No doubt in this case certain medical men were kept out of the committee by intrigue, and laymen put in instead, until the medical element ousted itself entirely. They have sown the wind, and we are reaping the whirlwind. And there appear sundry unmistakable evidences that the profession is about to go through a time of trial and probation, and we trust of purgation, until its rightful position is accorded to it; but it must do something to see that it does not so frequently allow men of second-rate ability to get into prominent places where only the very best men in the profession should be found, nor make its selections for wealth, urbanity, or perhaps, sometimes, for capacity for intrigue, instead of sterling merit, in the future. The nursing sisterhoods are apparently determined to make a desperate struggle with the profession for the confidence of the public; and it must be admitted that the profession does not occupy that commanding "position" which its friends could wish to see it hold. Humanity has an impression that above all things doctors should be healers; that when one sends for a medical man one should hope to get some good therefrom. It was all very well for the vanity of Mr. Borthrop Trumbull to be tickled by the examination of his "secretions;" but this brilliant sketch by George Eliot, in "Middlemarch," has brought vividly into prominence the "do-nothing" phase through which medicine has just been passing. Homœopathy fired a volley over the grave of "heroic treatment," and the echo resounded far and wide through the public mind, and only was lost at last in the rejoicings which announced the birth of a phase of "expectant treatment" the essence of which was "to let the patient alone." Doubtless in acute disease an advantage has been gained as regards a large proportion of the profession,—viz., those who act without careful thought,—and the present fashion is less homicidal than the heroic treatment in unskilful hands. But the balance has swung too far in the opposite direction, and medicine has been emasculated to a great extent, and practically stands in its present contest with the energetic sisterhoods like a eunuch fighting an Amazon. However objectionable to some men this simile may be, it does not unfairly represent the condition of the two contestants in the present warfare. Propositions as to what is to be done are plentiful: petition Parliament; invoke the aid of the British Medical Association; enlist the active sympathies of the journals, etc., etc. It is somewhat ominous that the enterprising editor of the *British Medical Journal* maintains his present attitude in the matter.

However, to turn to a more pleasant subject for the thought of a medical man, Dr. Ferrier, F.R.S., recently read a paper before the Harveian Society on "Tumor of the Cerebellum." All are aware how much Dr. Ferrier has contributed to the recent advance in our knowledge of the brain, and our improvement in the diagnosis of cerebral disease from our acquaintance with the functions of various areas; and the diagnosis made in the present case, and borne out by the post-mortem examination, illustrates this famously. A man of middle age first began to feel giddy; this grew more marked, and he began to "heave" to the left side, giving beholders the impression that he was intoxicated. Then came on some dimness of vision, most marked in the left eye. Then came on pain in the occipital region, intensified when he lay on his left side in bed. After that his speech became thick; then followed deafness in the left ear. Such was the order of the head-symptoms. The autopsy revealed a tumor "of the size and shape of a hen's egg, concealing the under surface of the left lobe of the cerebellum, and causing a divergence of the pons Varolii and

medulla in a curve towards the right. On lifting the tumor, the left side of the pons was seen to be hollowed out and compressed towards the right side, and the left middle cerebellar peduncle appeared flattened and drawn out, following the left lobe upwards and backwards. The region pressed on included the roots of the fifth nerve anteriorly. The sixth, slightly displaced, was free from compression, and visible at the inner margin of the tumor. The seventh, eighth, and ninth lay in the centre of the hollow made by the tumor, and were displaced upwards, but there was no solution of continuity of the nerves. The roots of the hypoglossal nerve were flattened against the olivary body and lateral tracts. Situated in the angle formed by the pons, medulla, and flocculus, and concealing the origins of the seventh and eighth nerves, was a small tumor of the size of a cob-nut, which, however, had not caused any evident indentation of the parts on which it lay. The roots of the nerves were distinct. The fifth, sixth, and ninth nerves were entirely out of the region of pressure on this side." Such were the relations of the tumor.

The following are abstracts from the remarks of the doctor upon the case; but, as his work is always condensed to the utmost extent compatible with absolute accuracy of diction, any one wishing to make notes of the case had better consult the paper in the *British Medical Journal* for December 11, 1880. There were some small nodules on the surface of the cerebral hemispheres, but they were "unimportant," diagnostically, compared with the large tumor under the cerebellum, and probably they only appeared late on in the case. Occipital headache is common with cerebellar tumors: percussion over the painful area is diagnostically valuable. The pressure on the nerves gave precision to the diagnosis: thus, taste was abolished only in the anterior two-thirds of the tongue, the region supplied by the gustatory branch of the fifth, while the region of the glosso-pharyngeal still retained its functions. Thus, too, the total deafness of the right ear was a difficulty cleared up by the discovery of the second and smaller tumor. Then the deafness, without corresponding diminution of the function of the portio dura, is to be explained by two matters. 1. The more specialized a function, the more it suffers from lesion of its nerves and nerve-centres. The highly-specialized sense of hearing is abolished before the functions of the facial nerve are perceptibly impaired. Then the portio mollis is more readily compressed than the portio dura, as their names would suggest. Two symptoms specially characteristic of cerebellar disease were well marked in this case,—viz., vertigo and unstable equilibration, both as regards station and locomotion,—or perhaps rather vertigo *with* unstable equilibrium. When found together, these are very suggestive. The eyes being open or shut made no difference in this case over healthy individuals. The matter of "cerebellar reel" is, Dr. Ferrier thinks, of more importance than is generally accredited. The direction of the reel is still less studied, yet in this case it pointed to the disease being in the left lobe of the cerebellum more particularly. The cerebellar lobes are in relation especially with their own side of the body, and regulate the motor adjustments necessary for equilibration more particularly on their own side. It is known experimentally that one cerebral lobe may perform the work usually carried on by two, but in the case of the cerebellum this is not yet ascertained. The general compression of the cerebellum enfeebled the right lobe, and so clouded the symptoms. In the diagnosis of cerebellar disease in its early stages it is well to investigate the matter of equilibration very thoroughly. When the disease is advanced, it may be enough to ask the patient to stand or walk and the impairment is revealed; but in the early stages it is necessary to test the patient by measures which task the powers of equilibration more severely, such as standing first on one leg and then on the other. By such means impairment of the more difficult actions tells of commencing disease, while the more ordinary movements can still be performed so well as to create no suspicion. This tracking down of disease of the contents of the encephalon by means of our knowledge of the functions of different areas is one of the practical outcomes of our experimental inquiries which promise in time to lead to operative procedures for the removal of morbid growths within the skull, while the success of the antiseptic system in the treatment of deliberate injuries to them renders such operative measures perfectly safe as regards their justifiableness from a moral point of view. Rash as such a proceeding would have seemed to such a surgeon as the late William James Syme, whose death is still fresh in the memories of those who were familiar with him—in his swallow-tail, black continuations and waistcoat, with a black or black-and-white silk tie—and his fierce antipathies, and his advocacy of antiseptic surgery against Professor Simpson's acupressure, a few years have worked a wonderful change in these matters. And what betwixt our increasing knowledge of what the brain and its coverings will tolerate if carefully manipulated, and the excellent results of the antiseptic treatment of surgical injuries to it, lately ascertained experimentally by Professors Gerald Yeo and Ferrier, it is not very rash to say that it seems probable enough that in five years tumors within the skull will be diagnostically localized and then removed, with—well, we will see in time with what results.

The peritoneum used to be a terrible bugbear to the surgeons of the past, while the performers of ovariotomy at the present time

scarcely take it into consideration, it has become so tolerant of injury. Indeed, the serous membranes seem to have taken on quite a new attribute—one of forbearance—at present. Rheumatic fever used to hold on week after week, and even month after month, while nowadays it takes itself off almost at the first summons; and if it were not for the practice of getting the patients up too soon, and so keeping up inflammation in the cardiac valves, even the resultant heart-changes would become comparatively rare. Consequently, when growing so pacific in the abdomen and the thorax, there seem grounds for trusting that even in the encephalon the serous membranes will allow surgeons (who treat them with proper deference) to manipulate them upon occasion without too fiercely resenting their procedures.

It is now exactly a year since I was the object of much execration and some correspondence in a prominent medical journal for my remarks upon the social position of the profession and of doctors' wives. In the correspondence it was pointed out by Dr. Norman Kerr, of teetotal notoriety, that the social position of medical men in Scotland and in Ireland was far superior to that accorded to their English brethren; and as this was not called in question, at least by anything which appeared in print, it might be assumed to represent the state of matters fairly. Well, let us see what appears in a leader in the *Medical Press and Circular* for December 8. It appears therefrom that a medical man, a graduate of the University of Edinburgh, once a clinical clerk in the famous Royal Infirmary there, a man who has held several excellent appointments in different parts of Great Britain, a contributor of a number of articles to our leading medical journals, therefore a man who works at his profession, and a man who has held a good social position, and who is presumably a gentleman,—it appears that this medical man, for reasons of his own, settled in the Isle of Skye. Now, this man was a very good specimen of the country practitioner, from his antecedents. The distances to be traversed in the Isle of Skye are great, and the roads are rough and uneven; and the doctor had returned from a twenty-mile journey, when he found a message for him to go to Armadale Castle, seven miles away. He had only one horse, and the brute was so exhausted he could not be taken out again (there is no account given as to whether the man was weary or not). So, as nothing was said as to the case being urgent, the doctor postponed the visit till the next morning, and on arriving at his destination found the case one of toothache in a visitor,—one of the gentler sex. An explanation was tendered, something was prescribed, and on the following visit, made a couple of days later, all was well. Still, the medical gentleman was not invited to enter the house or thanked for his courtesy in making this call.

But the matter did not stop there by any means, and the offence, if offence it could be termed, was punished by very serious measures. A few days later the attempt was successfully made to deprive the doctor of his parochial appointment,—the *pièce de résistance* in a country doctor's bill of fare,—on the ground that he was remiss in the discharge of his duties. A letter asking for some explanation was tendered to the peer at Armadale Castle, couched in the most respectful language, and in answer he was told "that the members of the board were all of one opinion, that he would not do as medical officer for that parish." The doctor's wife then wrote to Lady Macdonald as follows, and the terms of the letter speak for themselves:

"We flitted here scarcely eighteen months ago, and now, greatly through some misunderstanding, we are again on the eve of being compelled to remove out of the situation the duties of which we tried to fulfil to the best of our ability. I appeal to your ladyship's well-known amiability and kindliness of heart to use your influence in our behalf, or at least to let us know how we have merited the withdrawal of your support."

This seemed a very fair and reasonable request, entitled, on its merits, to a courteous reply at least. "Lady Macdonald is very sorry she cannot help Mrs. Jefferiss about her husband's dismissal." This was the answer of the peeress to the country doctor's wife!

The next insult offered to the doctor was that of abridging the period which ought to elapse before his appointment should expire after his resignation. This is a device which is agreeable to some minds; and it is within my personal knowledge that a member of a committee of a public institution could get access to the check (signed but not filled up, in order to allow of the outgoing medical man arranging with his successor) and on his own responsibility fill it up; so that if the outgoing man remained any longer at his post he would work for nothing or have ten times more bother to get any recompense than the sum would be worth. This form of insult recommends itself to some minds.

Then followed a very substantial injury. The factor of the incensed peer wrote to the doctor as follows:

"I have to intimate to you that the subscription which you have hitherto been receiving from Lord Macdonald as medical attendant at Armadale will now cease. I have also to intimate to you that if you insist on continuing to occupy the house at Isle Ornsay, which Lord Macdonald has hitherto allowed you free of rent during his lordship's pleasure, you will require to pay rent at the rate of fifty-two pounds per annum,"—a pound a week fine, in fact!

Now, this was dated October 2, and between

this date and Whitsunday, 1881, there intervened two hundred and ninety-nine days (inclusive); consequently the doctor would have to pay forty-two pounds fifteen shillings for his residence—probably the only available one—if he kept his appointment, which is put down at seventy pounds and sixpence a year. There was going to be very little left for him out of his appointment, and he had already been deprived of the "subscription from Armadale Castle."

Whatever may be the social position of the English medical man, he cannot be deprived of his parochial appointment without the sanction of the Local Government Board, which sees that the doctor has a chance of a defence; so that, if ill used, he gets what may be termed "lawful ill usage." But it seems the parochial surgeons of Scotland have no such protection against local malice. Such, then, is the treatment a rural doctor and his wife receive when they chance to offend the local potentate. Comment on my part is as unnecessary as uncalled for; but I venture to think that what I stated last year is quite vindicated by this incident,—at least, to unprejudiced and dispassionate minds.

J. Milner Fothergill.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

A CONVERSATIONAL meeting of the Society was held at the hall of the College of Physicians, Philadelphia, October 10, 1880, Dr. Albert H. Smith, President of the Society, in the chair. Dr. John H. Packard read a communication entitled "On some Points in Medical Ethics" (see p. 231).

Dr. George H. Hamilton said that this was both an extremely interesting and important subject. The observance of the Code of Ethics is less careful than it should be, and breaches of the Golden Rule seem to be continually on the increase in the intercourse of physicians, and they are now at least five times as frequent as formerly. It is therefore important that some measures should, if possible, be taken by this Society and the State Society and the American Medical Association to correct this growing evil. When the American Medical Association was formed, two of the main objects in view were the improvement of preliminary education prior to attendance upon lectures, and to raise the standard of medical teaching. This has been urged at nearly every one of its meetings, and yet it is notorious that there are far fewer educated persons now in proportion to the whole number of the profession than there were thirty or forty years ago. May we not hope that some stringent measures may be devised more successful in effect than those whose purpose was to improve general education preliminary to the study of medicine?

Dr. Ludlow pointed out the danger of consulting with certain men who afterwards try to supplant the regular medical attendant, and recommended reprisals where this had been done.

Dr. Frank Woodbury said that the paper was timely and discussed subjects that deserved the serious attention of every member of the Society. A change had evidently taken place within the last twenty-five or thirty years in the practice of medicine: the specialist, as noticed by the lecturer, instead of being considered as little better than a charlatan, now occupies a prominent place in the profession, and in many cases deservedly so, as specialism has contributed greatly to the spread of knowledge in several departments of practical medicine. Of late years, however, another and less advantageous change has been gradually taking place that has a decided bearing upon medical ethics and demands investigation. A body of men now entering the profession in order to combine it with pharmacy have apparently little regard for the Code of Ethics, expecting to practise medicine on a par and in competition with other physicians, while still engaged in the sale of patent medicines, homœopathic specifics, and nostrums of all kinds, often being willing to give their advice free for the sake of the profit on the sale of these medicines. This present and prospective degradation of medical practice is all the more to be feared because many of our colleges offer special advantages to druggists to graduate in medicine. As there is a large number of such physician-druggists in Philadelphia already, and their number is steadily increasing, the speaker urged the members to give the subject special thought, in order that some decisive action might be taken by the Society at an early date.

Dr. Packard, in conclusion, said that in the paper he had read he did not pretend to cover the one-hundredth part of the questions which might be brought up for discussion in connection with the Code of Ethics: he had merely attempted to deal with a few points that had struck him from time to time in the course of practice. From some things that had been said in reply, he feared that his meaning had been entirely misunderstood. The question of a few paltry dollars more or less, or whether the case be one of a poor person or a millionaire, should not influence the consultant in regard to his duty. What he had sought to urge was that the case is different when a physician introduces a consultant and when the family select him. A consultant should never indicate by word or look any want of confidence in his brother practitioner: if he does so, he violates the Code of Ethics, and his conscience will tell him that he has injured his fellow-physician. This does not prevent the proper and courteous

expression of individual opinion. In reply to a statement, he said that he did not know what would become of our ethics if one physician should be thought justified in stealing another's patient because he thought that he had been wronged by him. This would amount simply to adopting the lowest instead of the highest standard of conduct. Two wrongs will never make a right; and the *lex talionis* will never serve as a basis for a sound Code.

He closed by again urging the importance of the adoption of a high principle of action, and the maintenance of it by members of the profession in their intercourse with one another and with their patients.

Dr. Henry H. Smith read a communication on "The Injurious Effects of the Constant Use of Baby-Carriages and Bicycles on the Physical Development of the Young" (see page 235).

Dr. M. O'Hara said that the subject of the care of young infants is a most important one, and if the observations of the lecturer are well founded the use of the baby-carriage is to be condemned. He believed, however, that some of the evils referred to, such as bumping over gutters and neglect of the comfort of the infant, could be overcome by having a proper nurse. The better class of carriages are so well provided with springs as to prevent jarring the child. The baby-carriage is of great convenience, especially at the sea-shore, as it enables the child to spend much more of the time in the open air than it would if it had to be carried; the child can in this way sleep with comfort in the open air, which is very desirable in some cases of illness. Babies are not kept in the baby-carriage all the time, but are taken out when they get home, and are then carried around or play on the floor of the nursery: so that their development need not be interfered with. He had used the baby-carriage for years in his own family, and expected to continue to use it, as he had not seen any bad results upon his children from its use.

Dr. Benjamin Lee, in spite of the objections which had been urged, still retained his respect for the baby-carriage, and believed that the posture in which the young infant is placed in the carriage is possibly better than that which it is made to assume when carried in the nurse's arms. In the carriage the child lies upon pillows in a semi-recumbent posture, with the two sides of the body equally and symmetrically supported; whereas if the nurse is stronger in one arm than the other,—and what nurse is not?—the child lies constantly in a distorted position, laying the foundation for a spinal curvature. He thought that the lecturer underrated the amount of force required to carry a baby: in his own family he had noticed that a large baby requires considerable strength, and after carrying the child for a short time he became fatigued, though, in truth, both the nurse and the mother could carry it longer than he could himself.

The point referred to by the lecturer—that the baby is sometimes kept out in the carriage for many hours and allowed to sleep in it—is an advantage rather than an objection: although they do not use their spinal muscles at the time, they are drinking in health and vigor with the fresh air, to use them after they return home, when they are held in the lap or carried on the arm and are thus obliged to make frequent use of the erector spinæ mass of muscles.

Referring to the supposed analogy between railroad concussion and the jolting of baby-carriages, he said that it should be remembered that railroad conductors and trainmen are constantly on their feet and the passenger is sitting erect,—the impulse is thus carried along the spinal column to the base of the brain,—but the infant is lying recumbent, and in a carriage well provided with springs the brain and spinal column are not subject to special movement, and an occasional jolt can be only of slight, if any, importance. The other observation—in regard to the possible connection between club-foot and bicycles—he considered as important and deserving of careful observation.

Dr. W. R. D. Blackwood noticed the frequency of gutters in Philadelphia, which he had often observed in its relation to baby-carriages as careless nurses bounce the babies over them. He had had his attention drawn to the neglect of children by nurses in the public squares, as they are not always minding the baby when out with the child in its carriage. While the nurse is gossiping, the baby is often hanging with its head out of the carriage in the full blaze of the sun, getting ready for an attack of cerebral congestion or meningitis. The strap that runs across in front of the baby to hold it up becomes soon twisted into a rope stretched tightly across the baby's abdomen: so that in going over the gutters the child's head first bounces forward and then backward against the back of the coach in a most idiotic manner, forming the picture of misery and an object of profound sympathy. He thought that it was not necessary for a child under seven months of age to ride in a baby-carriage, and would much prefer the old-fashioned method of giving it an airing in the nurse's arms.

A number of fractures had come to his notice caused by bicycle accidents. He had noticed that the bicycle had been recommended by physicians both as a means of exercise and as a method of transit in country practice. Some English physicians, after using this means of conveyance for several months, have abandoned it. When used in the city on the cobble-stones there must be considerable concussion of the spine, which would be much less in a country district over smooth roads.

Dr. Benjamin Lee said that Dr. Maxwell, of

Wilmington, Delaware, in a conversation upon the subject, had informed him that he had noticed in cholera infantum and summer diarrhœa, that when the little patients had been taken out for a drive in the country with a view of giving them fresh air, they would be brought home very much worse, and sometimes in a fatal state of collapse. He thought that very often in cities, in similar cases, the use of the baby-carriage might result in fatal aggravation of the disease.

Dr. Charles B. Nancrede said that, as regards the shock and concussion of the spinal cord, the members appear to have overlooked the fact that the liability to shock is much less often up to even the twenty-fifth year of age than it is after this time. Owen pointed out many years ago that the epiphyses of the skeleton had the function of preventing concussion of the nervous centres; and many of these epiphyses are not consolidated until maturity. The consolidation of the bones of the skull into what is practically a single bone is also delayed until considerably after puberty. He believed that the results of the motions of the baby-carriage upon the nervous system were much less than had been stated.

The analogy between the baby-jumper and the bicycle is not a true one, on account of the difference in the position of the toes. In the former the toes are directed constantly downwards, the foot being strongly extended; in using the bicycle the toes become the fulcrum, and both the flexor and the extensor muscles are alternately brought into action. Moreover, the results could not be compared, because the boy walks between the times of using the bicycle. The reason that the baby-jumper has such a bad effect is that the bones are not sufficiently ossified to prevent their distortion being effected by the abnormal position of the foot, produced by the constant pull of the contracted muscles; but in a boy of twelve or more years the compensating action of the muscles would generally be sufficient to prevent trouble.

Dr. John H. Packard spoke of his son, who when an infant had tenotomy performed upon him for varus. Last summer, having several times used a bicycle that was too large for him, though only for two days, it was noticed that there was contraction of the plantaris muscle and fascia, causing him to walk on the toe. In all probability it will be necessary to divide the plantar fascia at least, in order to overcome this deformity.

Dr. Henry H. Smith, in concluding the debate, said that he had introduced this subject to the consideration of the Society in order to excite discussion and call out the experience of other members of the Society, and he had been gratified to find that so little had been said in opposition to the opinion expressed in his paper, especially as the recumbent posture of a child in a baby-carriage cannot be sustained by hygienic laws. The upright posture in the nurse's arms favors the action of all the muscles of the back, as well as those of respiration, and therefore the oxygenation of the blood is more perfect. When lying down, and especially when sleeping in the carriage, the motions of the thorax are, as is well known, less frequent, and less oxygen is therefore introduced into the system. Another point in favor of the opinions expressed by one of the speakers in this paper was mentioned in this discussion,—viz., that babies suffering from diarrhœa were injured by riding in a carriage: certainly such shaking and concussion of the viscera does not take place in the nurse's arms. The statement of another speaker—that concussion of the brain and spine cannot readily occur in the carriage, owing to the epiphyses of the bones relieving the spinal cord from concussion—applies only to the upright position of the child when carried or walking, and not to the recumbent posture which it is made to assume when sitting or lying down in the baby-carriage. Even when a child sits up in the carriage it is not so well off as it is on the nurse's arm; and this was shown in the greater activity of that child reported in the paper. Unless the child's muscles are systematically and proportionately exercised, it cannot become as vigorous as it otherwise would when better trained for muscular development.

On motion, a vote of thanks was tendered to Prof. Smith for his interesting communication.

NATURAL VENTILATION AND CONTAGIOUS DISEASES.

Dr. John H. Packard detailed some experiments that he had witnessed recently in New York, showing the passage of gases through solid stone, as in the well-known experiment of Pettenkofer, illuminating gas being forced through a piece of granite simply by the pressure from the meter: it issued in a full stream on the other side so that it could burn with a steady flame. This has a direct bearing upon the spread of infectious diseases; for if the poison passes into the wall there is less to be expected from lime-washing or papering its surface in preventing further outbreaks of a zymotic disease. He also related an instance where a closet in a room persistently retained the odor originally issuing from a case of cancer, although after the death of the patient every precaution had been taken to obtain cleanliness and fresh lime-wash had been applied several times.

Dr. Cleeman did not think that the conclusion in regard to zymotic disease was warranted by the experiment, as there is no evidence offered of the passage of solid particles, but only of gas.

Dr. Perkins mentioned the fact that the odor of a skunk killed in the house was distinctly perceived in an adjoining room,

through a solid wall of masonry two and a half feet thick, within fifteen minutes after the animal had been killed, and remained for at least two years.

Dr. Benj. Lee differed from Dr. Cleeman as regards the inability of solids to pass through masonry. Water passes through walls generally, and, according to Pettenkofer, when the walls are tight they are damp, and a dry house is one where the vapor generated in the house can pass through the walls.

Dr. Nancrede said that gases will pass through brick without any extra pressure being required (Carpenter's "Physiology").

Dr. Cleeman in reply pointed out the fact that the particles of organic matter are not in the same state as watery vapor; gases and liquids readily diffuse, but solids do not.

RED PERSPIRATION IN THE AXILLA.

Dr. Benj. Lee presented a specimen of a peculiar condition of the hairs of the axilla. The patient, a young lady of twenty-five years, had been under treatment for anchylosis of the spine following caries. The general health was good. She called Dr. Lee's attention to the fact that her underwear was much stained in the axillæ by a red perspiration, and upon examining the axilla he found the hairs sparse, stiff, clubbed, and containing red deposits upon them. The habits of the patient were cleanly; no pediculi. The hairs contained no spores, as suggested by Dr. Key, but showed a clear reddish-brown substance irregularly deposited upon them in gum-like lumps. Spore-like bodies were afterwards found, but it was supposed that they were extraneous in their origin.

A communication was presented upon this peculiar condition, during the early part of the present year, by Dr. Axel Key, to the Swedish Medical Society, who described it as follows: "Small, thin, glistening lamellæ, of a pale yellow hue, which soon formed small globular elevations of homogeneous appearance in the main, but with numerous imbedded small glistening spores. The flakes seemed to lie in part on the surface of the hair; in part and predominantly the vegetation pressed in between the outer layers of the epidermic plates of the hair, giving the latter a roughened appearance. No mycelium was discovered."

Two or three similar cases have since been reported in American journals, but no satisfactory explanation of the phenomenon has been suggested.

MR. LAWSON TAIT says that sponge-tents charged each with five-per-cent. solution of oil of cloves will remain in the uterus twenty-four hours without becoming in the least offensive in smell. Other disinfectants do not produce the same result. He also considers sponge-tents safer than the sea-tangle tents for general use.

REVIEWS AND BOOK NOTICES.

DIAGNOSIS AND TREATMENT OF EAR DISEASES. By ALBERT H. BUCK, M.D., New York City, Aural Surgeon to the New York Eye and Ear Infirmary, etc., etc.

The author in his preface makes the statement that he has endeavored to present, in text-book form, a picture of diseases of the ear as they have appeared to him in private and hospital practice, and that in the main he has followed closely the plan of using only the material stored up in his own case-books, and of describing only those methods of treatment which he has tested and found safe and efficient. A work written on such a plan could not be expected to be an exhaustive treatise, but what it lacks in this respect it makes up in practical value, as it is most truly a practical work on ear diseases.

The chapter devoted to diseases of the middle ear (purulent form) and diseases of the mastoid process are especially valuable. A large number of illustrative cases are quoted and details of treatment given, and the entire subject is worked up in the manner that its importance requires.

A careful review of this book quite justifies the statement that it is by far the best work on this subject that has as yet appeared; and it is most creditable that an American should be its author. G. S.

CLINICAL LECTURES AND CASES, WITH COMMENTARIES. By HENRY THOMPSON, M.D., Consulting Physician to the Middlesex Hospital. 8vo, pp. 197. London, J. & A. Churchill, 1880.

Most of the lectures and reports of cases which are contained in this book have already been published in various of the medical periodicals of England, and are therefore presumably more or less known to many of our readers: indeed, many of the subjects treated of are hardly those which a lecturer would specially choose for discussion at the present time, however appropriate they may have been for that purpose ten years ago. For instance, the subject of cerebral rheumatism excited much more interest in 1871 than it does now, when its phenomena and pathology are much better understood.

The author, while admitting that an elevated temperature in cases of cerebral rheumatism is an element of danger, very stoutly contends that it is not the cause of the nervous symptoms, as he says that these very often precede in point of time the hyperpyrexia, and are often present when the temperature does not rise beyond 100°. He nevertheless insists upon the necessity of reducing the temperature when abnormally high, and does not hesitate to recommend the cold bath even in cases complicated with acute bronchitis or pneumonia, asserting that he has never seen any harm result from its use. The term

"cerebral" must, we suppose, continue to be employed to characterize these cases, although it is open to the objection that it tends to perpetuate the error which attributed the symptoms to inflammation of the membranes of the brain, which experience has shown to be rarely, if ever, present. The word "typhoid" has been used, but, although suitable in many cases, would hardly be appropriate in those in which the symptoms assume an almost maniacal violence.

The author also reports, with explanatory remarks, three interesting cases of intracranial abscess which supervened upon otitis, and shows very clearly the connection which exists between these conditions. Other subjects discussed are ulcerative endocarditis, pericarditis, pneumothorax, ascites, and syphilitic disease of the liver.

Although it lacks the freshness one expects in a volume of clinical lectures, the book everywhere abounds in evidence that it is the work of a good observer, and of an accomplished observer, and, as such, is a valuable legacy not merely to the author's old students at the Middlesex Hospital, but to the profession at large. J. H. H.

CUTANEOUS AND VENEREAL MEMORANDA. By HENRY G. PIFFARD, A.M., M.D., Professor of Dermatology, University of the City of New York, and GEORGE HENRY FOX, A.M., M.D., Lecturer on Diseases of the Skin, College of Physicians and Surgeons, New York. Second Edition. New York, William Wood & Co., 1880. 16mo, pp. 310.

The correction of typographical errors, the addition of a few selected formulæ, and some amendments in the nomenclature constitute the principal changes made in this edition of Drs. Piffard and Fox's little book. We regret that these changes in nomenclature have not been more sweeping. The chief fault of the first edition was in its peculiar system of classification and nomenclature, and many of these peculiarities remain in the present edition. The accomplished authors of this little work would have done well had they ranged themselves in harmony with the rest of the modern dermatological world on this subject. Until such a change is made, the book is not one which can be recommended to the student at large, unless he wishes to muddle his brain hopelessly. Within the circle of its authors' teaching, however, it must be a valuable aid to the beginner.

ATLAS OF SKIN DISEASES. By LOUIS A. DUHRING, M.D., Professor of Skin Diseases in the Hospital of the University of Pennsylvania, etc.—Part VIII. Philadelphia, J. B. Lippincott & Co., 1880.

Of the four varieties of disease depicted in this fasciculus of Professor Duhring's Atlas, the first is *erythema multiforme* (*papulosum*). This curious affection is, perhaps, as apt to puzzle the practitioner and lead him astray as any in the long catalogue of skin diseases. Resembling, as it does, so closely some forms of the papular syphiloderm, it is apt to be mistaken for this, and to lead to awkward suspicions and possibly unjust accusations against the unfortunate victim. Dr. Duhring gives a picture of the affection as it occurs on the backs of the hands, and as perfect a representation as could be desired. The picture of *syphiloderma tuberculosum*, which follows, is a good representation of this affection, and the artist has succeeded in rendering the scarring effects on the patient's temple most admirably. The third picture represents a well-marked case of *tinea trichophytina*, the rings on the back of the neck and the broken-off hairs in the scalp being particularly well depicted. The fourth plate is a representation of one form of *psoriasis*, of the variety "nummularis," and is, equally with the others, a work of art and a faithful representation of the disease. V.

A PRACTICAL HAND-BOOK OF MEDICAL CHEMISTRY APPLIED TO CLINICAL RESEARCH AND THE DETECTION OF POISONS. Partly based on "Bowman's Medical Chemistry." By WILLIAM H. GREENE, M.D. Henry C. Lea's Son & Co., Philadelphia, 1880.

As Bowman's well-known "Medical Chemistry" has been out of print for several years, while the demand for such a work still continued, the publishers have brought out the work recast and largely rewritten, although within a slightly smaller compass. On comparing the new work with the last edition of "Bowman," we find very considerable improvement at once apparent. The author of the revision before us has prefaced the course of practical analysis with which Bowman began with a section enumerating the organic proximate principles taking part in the animal economy, and giving full descriptions of all chemical constituents, both normal and abnormal, thus allowing of fuller identification. The analysis of secretions, excretions, etc., then, forms Part II., followed, as in the older work, by the part on the detection of poisons, which therefore is Part III. of the new book.

Among points of merit noticed are, briefly: the tables of urinary sediments, on page 127, are better than the enumeration in the previous edition, and are more fully illustrated by cuts; several methods for the quantitative determination of urea are given, including two newer than Liebig's mercuric-nitrate method; it does not give special schemes for the examination of diabetic and albuminous urine, but the reactions for glucose and albumen and the methods for their quantitative determination are fully given, so that a careful student can use the book to equal advan-

tage, while the danger of mechanically or blindly following a tabular course of analysis is removed.

Among minor deficiencies or blemishes we may mention: first, where it is necessary to mention such names of organic compounds as (on page 54) "neurine is trimethyl-hydroxethylene-ammonium hydrate," a rational or structural formula should be given, as the name does not convey any idea except to the professional chemist; in his descriptions of milk and butter analysis he quotes only older French authorities, and does not give the newer methods of the English analysts; in his arsenic tests he does not recognize the importance of being able to evolve arsenic in alkaline solution, as in Heitzmann's test, nor does he give the convenient modification of Marsh's test by Davy, in which sodium-amalgam is used.

The book is of convenient size, and well printed and bound. SADTLER.

GLEANINGS FROM EXCHANGES.

CÆSAREAN SECTION, WITH REMOVAL OF UTERUS AND OVARIES, SUCCESSFULLY PERFORMED AFTER THE PORRO-MÜLLER METHOD.—Dr. Elliott Richardson, of Philadelphia, reports (*Am. Jour. Med. Sci.*, January, 1881, p. 36) the following case, which is of great interest as being the first successful operation of the kind performed by an English-speaking surgeon. The patient was a dwarf, twenty-five years of age, forty-six inches in height, and weighing eighty-five pounds. It was thought best to select a time for the operation about two weeks anterior to the supposed period for labor to begin, in order to permit ample preparation and to avoid the exhaustion incident to labor. It was thought, too, that the presence of a well-defined cervix would make easier the application of the retaining-ligature at the time of operation. Dr. Richardson avoided giving the preliminary purgative customary in such cases, believing that the disturbed condition of the bowels, or, if opium were subsequently given, the meteorism which would result, would be unfavorable.

The operation, which was performed on the 22d of September, 1880, was begun by an incision in the median line of the abdomen, extending from a point about one and a half inches above the symphysis pubis to a point about four inches above the umbilicus. The incision was about ten inches in length, and was made so exactly in the median line of the abdomen that not more than a teaspoonful of blood was lost from this part of the operation. No hæmostatic was used, and no ligature had to be applied. The abdominal cavity being opened, the uterus could be seen and was drawn out, the abdominal walls being closed immediately and a piece of carbolized flannel wrapped around the base of the uterus. The loop of an écraseur being thrown over, the uterus was tightened at a point a little below the os internum. The uterus was then rapidly opened, the placenta being found directly on the anterior wall, the incision going through it. It was detached, and it and the entire ovum were turned around within the uterine cavity, the membranes ruptured, and the child extracted, followed by the entire removal of the after-birth. Two stout steel pins, about five inches in length and the size of a No. 8 French bougie, were then introduced through the cervix, one passing below, the other above the wire of the écraseur, and diagonally to the line of the abdominal wound. A piece of stout silk cord, previously soaked in carbolized oil, was tied tightly around the cervix between the two pins, exactly in the line of the temporary wire loop, which latter was removed as soon as the permanent ligature was applied, but before it was finally fastened. The silk ligature was wrapped twice around the cervix, and then tied.

The uterus and ovaries were now cut off with scissors at a point about three-quarters of an inch above the ligature, and the stump placed at the lower angle of the abdominal wound. Careful sponging of the cul-de-sac of Douglas with carbolized sponges removed a very small quantity of bloody serum. The abdominal wound was then closed by twelve interrupted silver sutures, four superficial and the remainder deep, enclosing about half an inch of the peritoneum on each side. During the introduction of the deep stitches a flat sponge was placed in the abdominal cavity beneath the flaps to catch and absorb any drop of blood which might escape from the wounds made by the needle.

The wound being closed and the stitches supported by long strips of adhesive plaster, pure liquid carbolic acid was applied carefully to every part of the stump outside of the ligature, plates of lead placed under the pins to prevent undue pressure, and Lister's carbolized gauze applied to the whole extent of the wound and to the exposed stump. This was completely covered with carbolized mackintosh, and the whole kept in place by a flannel binder. No drainage-tube was introduced. The patient was immediately placed in bed, and a hypodermic injection of a quarter of a grain of sulphate of morphia administered. The operation alone occupied forty-five minutes; including anæsthetization and dressing, the entire duration was an hour and a quarter. Lister's antiseptic method was fully carried out.

The history of the case after operation was most satisfactory. For the first ten days the patient's temperature only once rose to 100.4°. On the eleventh day a mild attack of phlegmasia dolens supervened, and the temperature for the three nights succeeding reached

100.6°; convalescence then went on without further interruption. The abdominal wound united by the first intention. The pedicle came away on the eleventh day. The function of the bladder was not at all interfered with. The infant, a vigorous male of five and a half pounds weight, is at present living and well, as also is the mother, three months after operation. Dr. Richardson says, with regard to the effects of the operation, "I have rarely seen less discomfort in a lying-in woman after normal labor."

The advantage of the Müller modification of Porro's method is that it is clean, safe, and easy to perform; not a drop of blood need enter the abdominal cavity. Dr. Richardson attributes his success to the fact that a time was fixed before the period of labor when his eight assistants could be summoned without haste and with due preparation, including the avoidance of contact with contagious disease for two days previous, also to the careful attention to minute details, antiseptic precautions, etc.

ACONITE IN TONSILLITIS.—Dr. John L. Washington (*St. Louis Courier of Medicine*, 1880, p. 436) says, "I have repeatedly verified what Professor Ringer says respecting the effects of aconite in acute tonsillitis, so that I consider it almost a specific. I give to an adult five drops of the tincture of aconite root at once in a little water, and one-fourth as much every twenty minutes afterwards, until the pulse is reduced to ninety and profuse diaphoresis is produced. Then a similar dose is continued hourly. I give a purgative dose of calomel, unless the bowels are loose, in which case, if the tongue is foul, I give a few half-grain doses instead. Hot poultices are applied to both sides of the throat immediately; and, if the patient is willing to pay me for another visit on the next day, if I find pain and swelling still present, which is usually due to neglect of directions, I paint the tonsils and parts surrounding with a solution of nitrate of silver, thirty grains to the ounce, and give him crystals of chlorate of potassa to dissolve in the mouth, to be afterwards swallowed; also, five drops of the tincture of belladonna and two drops of tincture of aconite root every two hours, a combination strongly recommended by both Bartholow and Ringer. In the case of a young man eighteen years of age, whose throat was almost completely closed from the enormous swelling of both tonsils in an acute attack, causing an extreme degree of dyspnœa, and death by suffocation to appear imminent, by means of ten drops of the tincture of aconite root placed on his tongue, and a hot poultice to each side of his throat externally, I have completely relieved the urgent symptoms in thirty minutes, causing very profuse perspiration with a grateful sense of comfortable relaxation. I order patients always to remain in bed until several hours of free action of the skin have passed. I have given aconite to pale, thin children, with moderately weak pulses, and have always found one-half to two-drop doses in the beginning of the attack, repeated every fifteen or twenty minutes, to bring about copious sweating and speedy diminution of the swelling, and have never seen any unpleasant symptom from its use in this manner. If the patient has been, on account of painful or perhaps impossible deglutition, ten or twelve hours without proper nourishment, I order an enema of beef-essence."

A NEW REMEDY IN DIPHTHERIA.—Dr. George Guttmann, of Cronstadt, says, "Knowledge of the physiological action of pilocarpin and of its effect upon bronchial catarrh, giving rise to moist râles, led me to believe that, administered in diphtheria, it might lessen the diphtheritic membrane through the induced abundant salivary secretion, while it would not excite any inflammatory condition. The result of the proposed treatment was above all expectation brilliant and striking. In six cases pilocarpin was administered with cure of the patients in two to four days. In addition, the usual general treatment was followed: quinine, tannin locally, gargles of lime-water, and pepsin. The patients recovered in from two to four days.

"Led by these results, I prescribed pilocarpin in violent pharyngeal cases, angina aphthosa and tonsillaris, always with most happy results, the disease yielding in a short time. In two cases of violent tonsillitis, in which the tonsils were so swollen that water could be taken only with great difficulty, and scarification was positively indicated, not only did the swelling disappear, but the entire group of inflammatory symptoms, the one in twenty-four hours and the other in thirty-six.

"In the few cases of membranous croup that have fallen into my hands during the past fifteen months, pilocarpin has proved a faithful ally, and I believe it will prove as effective as in diphtheria of the fauces.

"Two cases of laryngitis stridula yielded promptly to the same drug, which is safer and more convenient than the usually prescribed emetic."

The formulæ employed by Dr. Guttmann are as follows:

℞ Pilocarpin. muriat., gr. $\frac{1}{3}$—$\frac{2}{3}$;
Pepsin., gr. x ad xii;
Acidi hydrochlor., gtt. ii;
Aquæ dest., ℥iii.
M. Sig.—A teaspoonful hourly for children.

For adults:

Pilocarpin. muriat., gr. $\frac{1}{2}$—$\frac{3}{4}$;
Pepsin., gr. xxx;
Acidi hydrochlor., gtt. iii;
Aquæ dest., ℥viii.
S.—Hourly, a tablespoonful.

He has never observed any undesirable effects of the drug even when it has been continued until complete recovery, possibly

because a small amount of generous wine is given after each dose.—*Berlin. Klin. Woch.*, October 4, 1880; *St. Louis Courier of Medicine*, November, 1880.

Treatment of Diphtheria by Tartaric Acid.—M. Vidal advocates the employment of tartaric acid in diphtheria (*La France Médicale*). Local action on the false membrane is necessary because it has a great tendency to propagation by a sort of auto-inoculation comparable to that which takes place in certain skin diseases. The formula he employs is this: tartaric acid, 10 grammes; glycerin, 15 grammes; distilled mint water, 25 grammes. The tartaric acid acts on the false membrane, which it changes into a gelatinous mass and favors its expulsion. Applications of it should be made about every three hours, and should be followed a short time after by applications of lemon-juice.—*Medical Press and Circular.*

Ipecac Treatment of Jaundice.—Dr. Cook, of Bombay, has obtained good results from large doses (twenty to forty-five grains) of ipecacuanha where small doses had been used without effect. In the ordinary so-called catarrhal jaundice it acts as a specific, and also in one or two cases of hematogenous jaundice good results were obtained by its administration. In a child three years of age twenty grains were given by enema.—*Practitioner*, August, 1880; *St. Louis Courier of Medicine.*

Physiology of the Nervous System.—Dr. Brown-Séquard has recently published the results of certain experiments upon the nervous system, made by himself, which have led to the following conclusions. 1. The appearance of anæsthesia after a lesion of the encephalon no longer affords reason for concluding that the affected part is a perceptive centre or a path for the conductors of sensory impressions. 2. Notwithstanding the very numerous facts which have led him to propose, and to cause to be admitted, the theory that the conductors of sensitive impressions of the limbs cross each other in the medulla, this theory should be rejected. 3. A lateral half of the base of the encephalon might suffice for the transmission of sensitive impressions on both sides of the body, since in the experiments reported by him one-half of the base of the encephalon transmitted, first, the sensory impressions of the right limbs only, then those of the left pelvic limb only.—*British Med. Jour.*, vol. ii., 1880, p. 606.

Resuscitation after Two Hours and Twenty Minutes.—Dr. R. J. Maitland Coffin (*Brit. Med. Jour.*, vol. ii., 1880, p. 659) was called to a case, an hour after delivery, when the child had been allowed to turn on its face and so became asphyxiated. He found a slight flutter at the heart, which ceased in a few minutes. The child was partially wrapped in flannel and placed in front of the fire. Sylvester's method was employed, and at the end of two hours and twenty minutes the child breathed easily, and complete recovery took place.

Fetid Sweating of the Feet.—Dr. Willcox (*Brit. Med. Jour.*, vol. ii., 1880, p. 659) straps the affected portion of the sole of the foot as smoothly as possible with tolerably wide straps of ordinary adhesive plaster,—either emplastrum saponis or emplastrum plumbi. Every part should be completely covered, and with two layers of plaster if the complaint be very bad. The plaster should be taken off and renewed in three or four days, and once again at the expiration of a week, when the skin will be found to be quite healthy.

Extirpation of Three Ovaries.—Dr. Fritz Keppler, of Venice (*Allg. Wien. Zeit.*, No. 36, 1880; *Brit. Med. Jour.*), undertook an operation for the removal of what appeared to be ovarian and tubal degenerate growth of both sides. In the course of the operation, however, it appeared that there was a fully-formed ovary and tube, which were also the seat of disease: so that it was necessary to perform extirpation of the three ovaries and three tubes. Such an anatomical anomaly is, it is stated, previously unknown: so that the case is one of great anatomical as well as surgical interest. The operation was entirely successful.

Dystocia from Coccygeal Anchylosis.—Dr. Alexander Simpson (*Edinburgh Med. Jour.*, November, 1880, p. 386) reports the case of a woman of forty-four, who, menstruating for the last time on the 23d to 26th of July, 1879, and separating from her husband on the 2d of August following, fell in labor on May 14, 1880. On examination, the several segments of the coccyx were found immovably fixed. As labor progressed, some slight mobility of the third and fourth segments of the coccyx supervened, but the first and second remained united to each other and to the sacrum. Labor progressed favorably until the head became arrested on the pelvic floor. After considerable delay, the forceps were applied and the child safely delivered, but with a laceration of the mother's perineum. Mobility was then found to have extended to the point between the first and second segments of the coccyx, but the first still remained adherent to the sacrum. The patient nursed the child and made a good recovery. Dr. Simpson remarks in this case upon the protraction of gestation, there being no doubt that the child was carried *in utero* upwards of two hundred and ninety-two days. He speaks of the tear in the perineum, which ran to the right of the raphé. There was also a laceration in the left nympha towards its upper or anterior extremity. The obliquity of the tears was probably connected with the unusual degree of obliquity of the head as it escaped from the canal, the ordinary degree of rotation of the large head

having been hindered by the projecting coccyx. The chief point of interest, however, was in the coccygeal anchylosis, and Dr. Simpson speaks at some length regarding this peculiarity. According to him, this may be *partial*,—affecting only one joint; the sacro-coccygeal articulation or the terminal segments becoming anchylosed together. If one of the joints remain movable, it is usually that between the first and second segments. Other varieties are the *universal*, all segments being anchylosed, the *complete*, not the slightest mobility remaining, and the *incomplete*, where there is slight mobility. In addition, the point may be misdirected,—turned backward or sidewise. Most frequently, however, the point is turned forward, so as to diminish the conjugate diameter of the pelvic outlet. Among the causes, or probable causes, of coccygeal anchylosis are age and injuries from falling, etc. It is not usually the cause of retarded labor in old primiparæ, imperfect development of the uterine walls being more commonly at fault. Fracture of the parietal bones of the fœtus sometimes results. The diagnosis is made without difficulty by examination. The natural efforts usually overcome the difficulty. Sometimes, however, the coccyx must be broken or the forceps brought into use.

Syphilitic Enlarged Spleen in a Child.—Dr. W. J. Tyson (*Lancet*, vol. ii., 1880, p. 653) reports the following case. A woman, thirty-nine years of age, who had given birth to several children suffering from undoubted syphilitic lesions, gave birth, in May, 1875, to an apparently healthy child. In July following the mother suffered from a breaking down gumma of the soft palate. Two years later the child was seen by Dr. Tyson, who found him with a spleen extending in a downward direction for three and a half inches, reaching the crest of the ileum; in front it approached closely to the umbilicus. The liver was not enlarged. No albumen present in the urine. He was ordered mercury with chalk, one grain every morning and evening, and one grain of iodide of potassium with ten minims of syrup of iodide of iron to an ounce of water, three times a day. After two months of this treatment the spleen was decidedly smaller, and at the end of five months it was only one inch below the margin of the ribs. The medicine was taken more or less regularly for a year, and three years later the child was found in good health and the spleen imperceptible.

Ladies' Sanitary Towels.—Dr. Galabin recommends towels containing a pad of absorbent cotton-wool rendered antiseptic by boracic acid for use during the catamenia and after confinement. They can be made cheaply, costing little more than the price paid for washing the ordinary towel, and can be burned after use.—*British Medical Journal.*

MISCELLANY.

The Brain and Spinal Cord in Extinct Reptiles.—At the late meeting of the National Academy of Sciences in New York, Professor O. C. Marsh, of Yale, who occupied the chair during this autumnal session, read a paper on the dimensions of the brain and spinal cord in some extinct reptiles, in the course of which he spoke of the special interest which attached to the stegosaurus, a mammoth reptile the remains of which he had discovered in Colorado. Five years ago Professor Marsh presented some observations to the Academy which indicated that the more remote the period to which any extinct mammal belonged the smaller would the brain be found, and that as time advanced there had been a gradual increase in the size of the brain, this growth being mainly noticeable in the cerebral or intellectual portion. At the spring session, in April last, he showed that in birds and reptiles also the same law held good. Since then he has examined skeletons of the stegosaurus unearthed in the Rocky Mountains, which, with a body as large as that of an alligator (some of the skeletons measuring thirty feet in length), had a brain-cavity no larger than that of a dog. The peculiar characteristic discovered about this reptile, however, is the existence in the sacral portion of the spinal column of an enormous vaulted chamber like an ordinary brain-box, which is from eight to ten times larger than the brain-cavity in the cranium. Professor Marsh examined a number of these skeletons, and found the same thing in all of them; and as ordinarily the young animal has a brain proportionately larger than that of the grown animal, so here in the skeleton of the young reptile this peculiar cavity is proportionately larger than in the full-sized skeletons. Professor Marsh has never seen anything analogous to this anomaly in any of the land vertebrates.

This is certainly a very curious discovery, the complete explanation of which it may be quite difficult, if not impossible, to arrive at in our present state of knowledge.

At the last meeting of the American Neurological Association, Dr. J. J. Mason, of Newport, reported a series of observations on animals, which seemed to establish the general law that in all vertebrates the diameters of the nuclei of the cells in the inferior horns in the two enlargements of the spinal cord are proportional to the muscular power of the corresponding extremities, the nucleus of each motor cell apparently increasing in size with the growth of the muscular structure which it serves to innervate. Thus, in the frog, with its powerful posterior extremities, the nuclei of the cells of the lumbar enlargement are found to be much larger than those of the cervical enlargement, while in the

gopher turtle the reverse of this is true. Now, if such a law held good in regard to the gross size of the enlargements of the spinal cord, it might possibly throw some light upon the subject, since this gigantic extinct reptile is described to be something like an elongated kangaroo in shape; but even then the enormous size of the sacral cavity, as compared with that of the cranium, would be by no means sufficiently explained, there being no other known extinct or living animal in which such a formation is found to exist.

Professor Marsh, without attempting to arrive at any definite conclusion in regard to the matter, suggested that this curious phenomenon of a "posterior brain-box" might perhaps afford some support to the idea which has been advocated in certain quarters of late,—that the whole nervous system, and not the brain alone, may possibly be the seat of the mind.—*Editorial, Boston Medical and Surgical Journal.*

HERMAN C. EVARTS, M.D., for the past three years assistant-physician at the Friends' Asylum, Frankford, Philadelphia, has recently been appointed Assistant Medical Superintendent to the New York City Asylum for Insane, Blackwell's Island.

THE notorious Dr. John Buchanan (diploma-seller) has been sentenced to pay costs of prosecution and five hundred dollars' fine, also to undergo ten months' imprisonment; his brother-in-law, M. V. Chapman, who, we believe, perjured himself in an effort to effect Buchanan's escape, was sentenced to the same fine and twenty-two months' imprisonment.

INJECTIONS OF CHLOROFORM IN LUMBAGO.—In *La France Médicale* the injection of chloroform in severe cases of lumbago (after the manner of Dr. Bradford) is alluded to. The amount injected varied from three to five drops. This had the effect, in Bradford's cases, of instantly relieving the pain, and after three injections patients were able to work as usual, and were apparently cured.

STRYCHNIA AS A PHYSIOLOGICAL ANTIDOTE TO ALCOHOL.—Dr. Luton, in the *Bulletin de Thérapeutique*, claims that by frequent experiment he has demonstrated that strychnia is the best physiological antidote in cases of chronic alcoholism. He has used hypodermic injections of the sulphate of strychnia in delirium tremens with markedly favorable results, relieving tetanic rigidity and quieting delirium.

POST-MORTEM EXAMINATION NO INJURY.—Ann Farley *vs.* William Carson, M.D.—Error to the Superior Court. The petition recited that James Farley died in the Cincinnati Hospital, January 11, 1879, and that his body was wrongfully withheld from the plaintiff, his widow, and desecrated and mutilated. In the court below, the case was taken from the jury and the petition dismissed upon the ground that it did not contain a cause of action. This action was claimed to be erroneous, and formed the basis of the petition in error.

Judge Avery announced the opinion of the court. He said it was established as the common law that a corpse is the property of no one, although there is a property in monuments and escutcheons of the ancestor vesting in the heirs. To steal a shroud from a corpse is larceny, the property in the shroud being held in the executors of the deceased or the person who buried the body. It was not larceny to steal the body itself; but, at the same time, it was indictable as a misdemeanor. The right in the proper person to the body of a deceased for the purposes of burial—a right correlative to the duty of burial—is recognized by our statutes, Section 3763. The court are not prepared to say, therefore, that the petition did not state facts sufficient to constitute a cause of action. The allegation that the body was desecrated and mutilated might, perhaps, have been made more definite, but, standing as it did, it was sufficiently comprehensive. To include such an injury to the right of decent burial as that would be a reflection upon a court of justice if it were not able to afford redress; but the evidence offered did not make out the allegations of the petition. The only evidence of mutilation was a cut over the liver, the deceased having abscess of the liver, and there was nothing in the evidence to show whether it was made before or after death, although he had been operated upon the night before he died, and had been tapped before he went to the hospital. The petition alleged mutilation after death. No case could exist unless there was such a mutilation as would be an injury to a right, and, as the right was simply the right of a decent interment, there could be no recovery unless in some way there was an infringement upon that right. Judgment affirmed.—*Cincinnati Gazette.*

MODIFICATION OF ESMARCH'S BANDAGE.—Dr. Levis, in a clinical lecture reported in the *Medical Bulletin*, says that the weak point in this bandage is the rubber compressing-tube. He says, "The objection to this apparatus is that it produces a linear constriction, which, being exercised within extremely narrow limits, tends to produce (by compression) a vaso-motor paralysis, the result of which is that sometimes after the completion of the operation hemorrhage sets in and gives more or less trouble to subdue.

"In place of this narrow tube I employ a rubber band made of tubing, the sides of which closely approximate. This band is about one and a half to two inches in width, thus distributing the pressure over a greater extent of surface, and correspondingly decreasing the chances of paralysis and consequent hemorrhage. The ends of this band are lined and surrounded with canvas, and eyelet-holes made in order to permit of lacing if desirable. Since using it I am rarely trou-

bled with hemorrhage following the operation. It controls the circulation fully as well as the more narrow tubing, and is altogether, I think, a great improvement over the old style."

ECZEMA OF THE SCALP AND NOSE.—Neumann, of Vienna, in moist eczema of the hair and scalp, bathes the diseased parts twice a day with the following solution:

Venetian borax,
Crystallized alum, of each 5 parts;
Glycerin, 100 parts.

For this lotion may be substituted a pomade thus formulated:

Venetian borax, one drachm;

Dissolve in a sufficient quantity of glycerin; add Mutton suet,
White wax, of each two drachms;
Olive oil, a sufficient quantity.

ECZEMA INTERTRIGO OF INFANTS.—Dr. H. B. Hodges, in the *British Medical Journal*, recommends the following, after twenty-five years' practice:

℞ Plumb. acetatis, gr. xxx;
Acidi acetici diluti, ℥ij;
Glycerinæ, ℥jss;
Aquæ rosæ ad ℥viij.—M.

He uses no internal medicament.

FOR CATARRH OF BRONCHI OR THROAT.—

℞ Quinidiæ sulph.,
Cinchonidiæ sulph., gr. ix;
Pulv. tragacanthi, gr. xij;
Pulv. althæ radicis, gr. v;
Pulv. gentianæ, gr. vj;
Pulv. santali rub., gr. ij;
Glycerinæ, gr. vj;
Acidi muriatici, gr. vj.

M. Div. in pil. no. xxiv.

Sig.—Four or six pills at bedtime; three pills every two hours during the day.

M. GALEZOWSKI has informed the Paris Société de Médecine Publique et d'Hygiène Professionnelle that he has noted fifty cases of serious accidents to the eye in schools, due to the introduction of steel pens into that organ. He is therefore of the opinion that the use of metallic nibs should be abolished in educational establishments.

INUNCTION OF CASTOR OIL AS A PURGATIVE.—Mr. John Nichol writes to the *British Medical Journal*, telling of a case of acute desquamative nephritis, in a child five years old, where he wished to act speedily upon the bowels. Not being able to induce the child to take any purgatives, he ordered the inunction, with a warm hand over the abdomen, of one-third of an ounce of castor oil. The result was a free action of the bowels five hours afterwards, followed by two other movements during the day.

EMULSION OF CASTOR OIL.—

Castor oil, 4 drachms;
Powdered gum acacia, 80 grains;
Essential oil of almonds, 1 minim;
Simple syrup, 2 drachms;
Water to 2 ounces.

Mix the powder with the oil, then add two drachms of water, and stir till the emulsion is formed, then add the remainder of the water, syrup, and essence.

EMULSION OF TURPENTINE OIL.—

Oil of turpentine, 4 drachms;
Powdered gum acacia, 2 drachms;
Syrup, 2 drachms;
Water to 2 ounces.

Mix the powder with the oil, add half an ounce of water, and stir till the emulsion is formed, then add the remainder of the water and syrup.

Oil of turpentine is considered one of the most troublesome bodies to emulsify: prepared by this form, there is no difficulty.

A MENSTRUUM FOR SALICYLIC ACID.—In the *Louisville Medical News*, May 1, 1880, Dr. Springer states that salicylic acid is readily soluble in effervescing Vichy or Seltzer water, the former, from containing an excess of alkaline carbonates, being preferable. The acid is put into a tumbler first and mixed thoroughly with a small quantity of water, to prevent its floating, and the glass is then filled with the effervescing water and the liquid drunk off. When perfectly dissolved it is said to have a very pleasant, exhilarating, pungent, and sweetish taste.

MICROBES.—Infusoria are giants in comparison with the minute organisms (or microbes) which M. Pasteur has shown to be so much concerned in epidemics and contagious diseases. In pure water the hunt for microbes may or may not be successful. Happily, however, certain chemical agents, especially osmic acid, kill organisms without deforming them, and once killed they sink to the bottom in appreciable quantity (if sufficient water has been used), and may be examined. M. Certes has practised this method successfully. For potable water with little organic matter in it, he uses a one-fifth solution of osmic acid, less than one cubic centimetre sufficing for thirty or forty cubic centimetres of water. For preventing the acid from darkening the tissues too much, some distilled water is added a few minutes after the acid has been in. The deposit may be examined microscopically after some hours (twenty-four, or even forty-eight if the water has been very pure). Coloring reagents (such as Ranvier's picrocarminate, methyl green, eosine, etc.), mixed with diluted glycerin, may also be used with advantage. It is superfluous to insist on the profit which may accrue to natural history and public hygiene from the micrographic analysis of water.

CARBOLIC ACID IN PRURIGO.—M. Lallier, of the St. Louis Hospital, Paris, uses in pruriginous affections of the skin a solution of carbolic acid (two per cent.), to which he adds half an ounce of glycerin, as compresses, or, better, in the form of spray. Its anæsthetic properties cannot be contested, and no inconvenience results from its continued use.

SYNTHESIS OF CITRIC ACID.—MM. Grimaux and Adams have succeeded in preparing citric acid from glycerin. The process is a very

complicated one, but it is said that the acid can by it be made at a cheaper rate than obtained from natural sources. The details of the process may be found in the last number of *The Druggist.*

NEW TEST FOR TRICHINÆ.—A Holstein peasant, uninstructed in microscopical research, and not possessing the requisite instruments of precision, has devised for himself a new test for the presence of trichinæ in pork. When he killed a pig, he was careful to send a portion of it—a ham or a sausage—to his pastor, and then waited the consequences for fourteen days. If his pastor remained healthy, then he felt perfectly easy in his mind, and well assured that his pig fulfilled the requisite conditions of soundness of food, and he proceeded to dispose of it accordingly in his own family. This ingenious method of research has not been considered satisfactory by the district physician.—*British Medical Journal.*

DR. SEGUIN, in *Archives of Medicine* for August, reports two cases of Bright's disease (contracted kidney) in which paroxysmal headache, confined to the occiput, was a marked feature. He calls attention to this phenomenon, as it has never been noticed before.—*St. Louis Courier of Medicine.*

LAST summer there were 98 foreign medical students in Vienna, of whom 38 were Americans.

MARK TWAIN'S RECIPE FOR NEW ENGLAND PIE.—To make this excellent breakfast dish, proceed as follows. Take a sufficiency of water and a sufficiency of flour, and construct a bullet-proof dough. Work this into the form of a disk, with the edges turned up some three-fourths of an inch. Toughen and kiln-dry it a couple of days in a mild but unvarying temperature. Construct a cover for this redoubt in the same way, and of the same material. Fill with stewed dried apples; aggravate with cloves, lemon-peel, and slabs of citron; add two portions of New Orleans sugar; then solder on the lid and set in a safe place until it petrifies. Serve cold at breakfast, and invite your enemy.

TEA raised from seed sent out by the Department of Agriculture has been an article of merchandise in Fayetteville, in this State, and it is grown in Wilmington as an ornamental shrub.—*North Carolina Med. Jour.*

MALFORMATION. — The *British Medical Journal* (vol. ii., 1880, p. 709) quotes, from a Danish source, an account, by Dr. Pippingskiöld, of a strong and fully-developed infant, from whose chest there proceeded two arms with hands and fingers, and, at some distance from them, with an intermediate rudimentary body, perfectly developed nates, with corresponding lower limbs. These four duplicate extremities exhibited some movements during life, but more slowly than the proper limbs of the child. The child died at the end of fourteen days.

OYSTERS AS A POSSIBLE SOURCE OF TYPHOID FEVER.—In the *British Medical Journal*, September, 1880, p. 471, Dr. C. A. Cameron draws attention to the danger of oyster-beds being laid down in the vicinity of the mouths of sewers, seeing that oysters so placed are found with their intestinal canals full of the sewage-matter.

FATAL RESULT OF CHLOROFORM TO THE ADMINISTRATOR.—Dr. Lefevre, a dentist of Oakland, Cal., chloroformed Mrs. Schroeder, of that place. The woman, suffering under the delusion that a felonious assault had been perpetrated during the chloroformization, told her husband, who incontinently shot the doctor. The coroner's jury rendered a verdict charging Schroeder with murder.

BERI-BERI IN SAN FRANCISCO.—Surgeon E. Heber Smith reports eighteen Brazilian man-of-war's men in the Marine Hospital of San Francisco suffering from this curious disease.—*New York Medical Record.*

NOTES AND QUERIES.

ERRATUM.

1118 ARCH STREET, PHILADELPHIA,
January 8, 1881.

EDITOR OF *Philadelphia Medical Times:*

DEAR SIR,—In the *Times* of January 1, 1881, I notice an error in the report of my remarks on the paper of Dr. Wilson, which I trust you will correct in the next issue of the journal. On page 208, at the bottom of the second column, I am made to say that the growth which occurs in Magendie's solution of morphia can be prevented by adding tartaric acid. My statement was that *salicylic* acid would prevent such formation; and, as I have my doubts about the efficacy of tartaric acid, I do not desire to appear to the public as having made an erroneous assertion. The error occurred, I presume, through my not having seen the manuscript of the Proceedings of the County Medical Society.

Yours truly,
JOHN B. ROBERTS.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM DECEMBER 26, 1880, TO JANUARY 8, 1881.

BAILY, E. I., LIEUTENANT-COLONEL AND SURGEON.—Granted leave of absence for two months. S. O. 277, A. G. O., December 30, 1880.

WHITE, C. B., MAJOR AND SURGEON.—Relieved from the duty assigned him in S. O. 229, October 25, 1880, from A. G. O., and to report to the Surgeon-General. S. O. 276, A. G. O., December 29, 1880.

WILLIAMS, J. W., MAJOR AND SURGEON.—To report to the Commanding Officer, Department of Arkansas, for assignment to duty, temporarily, as Medical Director of that Department. S. O. 2, A. G. O., January 5, 1881.

BROWN, J. M., CAPTAIN AND ASSISTANT-SURGEON.—The leave of absence granted him in S. O. 264, December 2, 1880, Department of the Missouri, is extended three months. S. O. 2, c. s., A. G. O.

MEACHAM, F., CAPTAIN AND ASSISTANT-SURGEON.—To report in person to the Commanding General, Department of the East, for assignment to duty. S. O. 278, A. G. O., December 28, 1880.

CARTER, W. F., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Granted leave of absence for one month, with permission to leave the Department. S. O. 265, Department of Texas, December 28, 1880.

PHILADELPHIA, JANUARY 29, 1881.

ORIGINAL COMMUNICATIONS.

FACTS IN REGARD TO THE SWEDISH MOVEMENT-CURE.

BY WILHELM J KARLSIOE,

Graduate of the Royal Gymnastic Central Institute, of Stockholm, Sweden.

(*Revised, and read before the Philadelphia County Medical Society, November* 24, 1880, by BENJAMIN LEE, A.M., M.D.)

IT is well known to all who have read the history of medicine that the Eastern populations of the ancient world employed movements as a curative means, and that the Greeks and Romans, later, extensively applied them as medical agencies, but that with the decay of those peoples their excellent therapeutics were forgotten. If any fault can be found with their modes of exercise, it is that they looked more to the simple development of the muscles than to the regulation of the treatment in accordance with physiological laws. Still, we must confess that the *agonistics* of the Greeks were of value, and have furnished a good basis for the further development of the system.

Although the people of Europe subsequently employed remedial movements, the practice degenerated still more into mere muscle-culture and military drill.

During after-ages medical science passed through many variations, one pretender after another lauding his particular plan which proposed to cure every ailment of the human body. Most of them directed their experiments to the chemical processes of the system, forgetful of the fact that vital phenomena are complex and not confined to one form of force alone.

To a Swede, Peter Henry Ling (1776–1839), is due the honor of having first practically recognized the truth that the movements of the body were based upon physiological laws and produced physiological effects. He considered that inasmuch as vital phenomena were threefold,—the dynamical (manifestations of the mind and will and moral and intellectual powers), the chemical (assimilation, secretion, etc.), and the mechanical (respiration, mastication, circulation, etc.),—the means to modify them ought to include more than the mere chemical agencies. For that reason he devoted himself to the study of the mechanical, not forgetting, however, the dynamical and chemical agencies.

"As our organization," he says, "cannot be complete without the union and harmony of these three orders of phenomena, it follows that this harmony must be health, and an inharmonious relation between them must constitute disease.

"When this harmony is deranged, in order to re-establish it we should endeavor to increase the vital activity of those organs whose functions have a relation to that order of phenomena whose manifestations are decreased or weakened."

Entertaining these physiological views, and fully acquainted with the mechanical treatment of the Greeks and Romans, he considered a knowledge of anatomy necessary for the gymnast, as his own words will show. "Anatomy," he says, "that sacred genesis which shows us the masterpiece of the Creator, and which teaches us at once how little and how great man is, ought to be the constant study of the gymnast. But we ought not to consider the organs of the body as the lifeless forms of a mechanical mass, but as the living, active instruments of the soul which animates the body in every part."

Ling never acknowledged a gymnastic movement to be beneficial until he was able to give an exact account of its effect.

For that reason he held anatomy and physiology as the basis of curative gymnastics, but did not consider an acquaintance with those and other natural sciences sufficient for the gymnast, whose aim should be the elevation of man both in his corporeal and his mental nature. To know the effects of movements upon both the physical and the psychological condition of man was necessary, and this could only be obtained by an exact study of the human being as a whole, on the one hand, and by an analysis of the details of his nature on the other.

After a long period of study and patient labor, Ling succeeded at last in making his new ideas recognized, and the first "Institution for Educational, Military, and Medical Gymnastics" was established in Stockholm at the expense of the Swedish nation. Before he died he had the satisfaction of seeing his mode of treatment enthusiastically appreciated by Sweden and introduced into other countries in Europe.

In accordance with his views, it was

enacted by the Swedish Diet (Congress) that candidates for graduation in the Movement-Cure should be examined in anatomy, physiology, hygiene, the science of human mechanics, pathology, diagnosis, and the principles of the Movement-Cure, and that no one should be accepted as a pupil without passing the "Examination of Maturity," which requires a course of seven years' study, and includes higher mathematics, logarithms, Latin (five years), French, German, English or Greek, ancient and modern history, physics, and chemistry. [I desire to call especial attention to the qualifications demanded of a student of the Movement-Cure in Sweden, and insisted on in good faith, as compared with those required of a student of medicine in this country.—B. L.]

Since 1813, when the Gymnastic Central Institution was first opened, there have been graduates each year, besides medical candidates and physicians from Sweden and foreign countries who study only such branches as are a specialty of the Movement-Cure.

Leaving this short history of the development of the Movement-Cure, I now proceed to define its principles somewhat in detail.

Physical life is dependent on certain distinct processes, such as digestion, respiration, circulation, etc. These processes of life are connected with certain organs; these organs are formed of tissues, and these tissues of cells. Perfect digestion, respiration, circulation, and nervous action take place as long as these organs, tissues, and cells are normal or healthy, and these organs remain healthy as long as nutrition is normal. Hence health is normal nutrition. But if health is normal nutrition, then must abnormal nutrition be the state which is called disease. Abnormal nutrition may decrease until it ceases, when death follows. Hence death is the cessation of nutrition.

With these ideas as a basis, let us try to understand the state of the body in disease. If disease is an abnormal nutrition, this must be owing to the existence of some derangement in the cells or in the tissues, even though it may escape detection.

As anatomy and physiology teach us the condition and the vital functions of our body in a state of health, so do pathological anatomy and pathology teach us the state of the system in disease. That these morbid changes first appear in the cells is now a generally accepted idea; and the results of long practice of the Movement-Cure have shown that if the cells are looked upon as either relaxed or contracted, and the movements directed according to one or the other of these views, many diseased conditions in which chemical treatment alone had been found powerless have been cured or prevented, the chemical and dynamical agencies having been taken into proper consideration. I mentioned before that, according to Ling, health was the harmonious union of the three vital phenomena,—the dynamical, the chemical, and the mechanical. Is this opposed to the opinion that health is normal nutrition? Not at all; for is not normal nutrition the co-operation of the dynamical (nervous power), mechanical (circulation), and chemical (nutritive exchange) phenomena? Hence it is evident that in a diseased state of the system we must try not only to correct that one of these phenomena which gives evidence of disturbance, but to restore all the organs whose functions have a relation to that order of phenomena whose manifestations are either intensified or diminished. The question then arises, What means does the Movement-Cure employ to promote a better nutrition and improve the condition of the cells?

Substances introduced into the body for its nutrition quickly make their way to its most superficial portions, and, while the chemical agencies play an important part in preparing the food for assimilation, the mechanical agencies are not less essential in conveying it to its destination. Are the vessels, in fact, anything but mechanical tubes for the passage of the fluids?

We see plainly that noxious influences of a physical character act from the surface of the body towards the centre. Cold is an external, injurious influence of the air which primarily affects the vessels of the skin and the pituitary membrane, but is very soon transferred to the chest, stomach, or other internal organs. A heavy blow on the chest or head may cause unconsciousness, syncope, collapse, and even death. Whereas if the effect of a mechanical impression did not extend to distant parts, only that which immediately received the impression should be injured or destroyed.

All that we find in our organism, whether

as a part of it or as foreign matter, must at a given moment of time have a fixed volume. Every displacement of any one part, therefore, implies a corresponding change in neighboring parts, propagated to the remotest parts, according to the extent of the primary action. Every little change of attitude, or of the relation of the members of the body to one another, —an external pressure upon a nerve, vein, muscle, or tendon,—must necessarily produce a displacement of neighboring parts and propagate the action more or less strongly into sensitive organs in the proportion of their distance and its intensity, the effect gradually diminishing, like wave-circles on the surface of water.

If, now, this pressure is applied on the largest part of a nerve, vein, etc., according to the force of the impression, the displacement must be larger which is experienced in every blow or external force directed to elastic parts; inelastic tissues receive the first momentum of the force and are destroyed, all their particles being opposed to the force in the same instant of time. Experience shows that a very slight pressure upon a nerve irritates it, that a stronger pressure produces pain, and a still stronger, engorgement and finally paralysis.

Again, we know that we sleep better if we assume a certain position, according to our individuality. What does this indicate, if not the influence of mechanical impressions upon internal organs?

In treatment by the Movement-Cure the position of the patient is the first thing to be observed. The positions most used are standing, kneeling, sitting, lying, half-lying, etc., and in every one of them the trunk or the extremities can be moved in different directions. If we consider each one of these attitudes, we shall find that we are able to place the different parts of the body in an extended, contracted, or passive position. We have many opportunities in daily life to observe the effect of a position. For instance, when the hands are red and heated, if we stretch them upward we find the extended veins emptied and the skin growing pale. The importance of position in procuring sleep is well known. If we further observe the attitude of invalids, we shall find that they, without knowledge of the physiological effects of the positions, always hold and carry themselves so as to get partial relief from pain.

The various kinds of Movements, which we call *Passive*, *Active*, and *Duplicated*, can be administered to the body in every one of the above positions, and hence it is evident that the variations are numerous, and that each may have its special curative effect.

By *Passive Movements* I mean here the exertion of a compressing or extending force from an external source upon the organs of a human body, such as kneading, clapping, fulling, vibrations, and pressing on nerves. The effect of these is to cause the stagnant contents of the vessels to move forward, giving place for a new supply of blood, since the valves of the veins prevent the removed blood from flowing back. The new supply of blood increases chemical action, and the immediate effect is to remove pain, soreness, swelling, redness, and heat, and to equalize the circulation and soothe irritation. These effects are produced without any exertion on the part of the patient, who, on the contrary, receives from the operation a strengthening influence diffused throughout the nervous system, giving new vigor to all the organic manifestations.

It is quite possible to observe the immediate effect of a passive movement by stroking a visible venous trunk either against or in the direction of its current. The first action prevents the onward flow, and the vein becomes very prominent. The second accelerates the blood towards the heart, and the vein dwindles away. The tissues of the body being elastic, it is evident that internal organs can be subjected to the same operation.

As labor is the lot of man, it seems but natural that all the organs of the body should be so constructed as to need a certain amount of exercise; and we are not surprised that experience shows us that too little as well as too much activity is injurious.

Among the organs of our body many are under constant work, as, for example, the heart, the blood-vessels, and the lungs, with their nerves; but a still greater part of our organism—the skeleton, with its ligaments, and the muscular mass, with its nerves—can be moved only by means of the will.

As the muscles form so great a part of the body, it must be important to take them into consideration, for the object not only of preserving health, but also of restoring deranged functions.

If a movement is made by the will and force of the patient, it is called an *active* movement; and if the patient has to overcome the resistance of one or several assistants, it is called a *duplicated* movement.

Now, if we analyze a muscular movement we shall find that three different processes —mechanical, physiological, and chemical —are its evident result. In active and duplicated movements the muscles are alternately contracted and relaxed, and the veins and lymphatic vessels which lie beneath the swelling muscle are compressed. Thus, during contraction the blood is forced from one valve to another towards the heart. When the muscles are relaxed the vessels refill, and are anew compressed by the frequently-recurring pressure of the muscles upon their trunks, thus forcing the blood forward.

Under the use of properly-directed movements the patient is instructed to perform deep inspirations during the muscular contractions, with proportionate expirations. This pump-like motion of the respiratory muscles draws the blood from the veins into the chest in order to supply the vacuum thus created.

But it is not only the muscles which experience the benefit of movements. In nearly every muscular movement some joint is moved, and the extension or compression of its ligaments and cartilages and membranes must provoke a better circulation in those parts. It can be proven by dissection that in those who perform bodily work not only are the muscles more voluminous, but the bones and tendons are more fully developed, than in inactive persons. Exercise, therefore, provokes circulation in all parts of the body which are put in motion. Further, as every muscular movement is performed by the will, it must be evident that the nerves have some share in movements, as the impulse to move a part of our body must be carried from the brain through the spinal cord and the motor nerves to the extremities and surface. Hence muscular movement at the same time that it promotes circulation also provokes nervous flow. This increased nervous action and chemical exchange are only in the motor nerves; but I think that muscular movement can be shown to have also an indirect influence upon the sympathetic and the sensory nerves. A muscular movement has also its chemical effect, as is well proven by physiological experiments. When a muscle contracts, heat is produced; and this heat has actually been measured to the extent of several degrees. If muscular exercise is continued for a considerable length of time, the person himself becomes conscious of an increased temperature, and as a final result perspiration sets in. This heat is the sequel of increased chemical exchanges in parts which are in motion. The muscular movement promoting blood-circulation produces an exchange of the solids and of the fluids of the body, and carbonic acid, lactic acid, etc., are formed, which, if accumulated in the muscle, produce the state which is called weariness. This weariness will disappear, however, when the above-mentioned products are absorbed by the vessels.

The materials thus consumed by exercise must be restored to the system, and the arterial blood, forced forward by the contraction of the walls of the heart, by the contractility of the arteries, and by the peculiar action of the capillary vessels, furnishes this needed supply. The amount of the blood cannot be diminished if the system is to remain healthy. Thus a new supply of nutriment for the blood is required from the digestive organs. This is absorbed by means of the lacteals; whence an increased appetite is the result of movement, as we knew by experience before physiological laws were written.

The chyle is not fit for nutrition, and for that reason it passes through glands where the matter is partially changed before it is emptied into the vena cava to mix with blood on its way to the heart, and still farther on to the lungs, in order to become oxygenated by contact with the air. Hence another effect of muscular movement is increased respiration from reflex action, produced by the impression of venous blood upon the nerves in the lungs. The exchanged noxious matters must be thrown out of the system, and this is partially done by the lungs, which secrete carbonic acid and water. Other noxious matters are separated by the kidneys and the skin. Thus muscular action produces increased activity in all the organs which are concerned in the great process of nutrition. *Duplicated Movements* are the most important, and their curative effect is dependent on *localization*, on the *amount of force* which is used, and on the *time* during which the movement is made. They are *concentric* or *eccentric* accord-

ing as the muscles are contracted or extended during the movement. The effect will be, in the one case to relieve organs suffering from congestion by sending the surplus blood away; in the other, to supply the part acted on with new nutritive blood. The prescription of either of these forms of movements is dependent on the condition of the cells.

By *localization* the effect of a movement is confined to a particular region, or to a separate organ of the body, while the other parts are at rest.

By a judiciously adapted resistance the strength of the patient is equalized with that of the assistant. The patient is pleased to find power of motion where it was previously impossible, and the energies of the system are aroused and encouraged by never allowing the patient to feel that his force is not sufficient to overcome that of the assistant.

The time which a movement occupies, which we designate the *rhythm*, is dependent on the individuality of the patient. The duplicated movements are in general slower than active exercises, giving all the fibrils or elements of the muscle time to participate.

Considering the few hints thus given in regard to the direction of movements according to physiological laws, it will be easily understood that no one without a special education is fitted to give, still less able to prescribe, movements for the cure of diseases, as is so often attempted in this country. No wonder that so many have tried so-called Swedish Movements without benefit, when inexperienced and uneducated manipulators are sent round to rub according to their own crude ideas. It is an indisputable fact that Movements and Massage, which are most important means for regulating the blood-circulation, if applied in opposition to physiological laws will attract the blood to a part already congested or inflamed, and the evil will be aggravated just as surely as if a wrong medicine had been administered.

Though the system is called Movement-Cure, restraint from active exercise is very often necessary. [This brief sentence, I beg leave to remark, contains in a nutshell the *rationale* of that system of treatment which has been fashionable in this city for the past few years under the misleading title of Rest-Cure. The *Rest-Cure* is, in point of fact, the *Movement-Cure*, the rest being merely a more or less necessary accompaniment. Supineness and stuffing are not curative in themselves or by themselves. Movements and Massage are; and Movements and Massage are an essential feature of the Rest-Cure.—B. L.] Great regularity in regard to the treatment, as well as strict attention to the prescribed diet and hygienic rules, is necessary in order to receive the full benefit of the cure. This mode of treatment has a great advantage over other therapeutic methods, from the fact that the patients are always benefited, even if it is impossible to make a complete cure, because the treatment removes pain, congestion, and local swelling, invigorates the muscles and the nerves, causes the lungs to act more freely, regulates the digestion and the blood-circulation, and, in a word, stimulates all the organs to perform their functions without introducing any irritating or toxic agent into the system. What is gained is obtained in nature's own way, by directing the fluids of the body through their natural channels with natural celerity. It is for this reason that disturbed capillary action, and all resulting disorders of the circulation, such as cold hands and feet, rheumatic affections, with their sequelæ of weakness and lameness, hemorrhoidal tumors, disorders of menstruation, and all the different symptoms of disordered digestion (dyspepsia, constipation, flatulence), are among the complaints which most easily yield to this mode of treatment, and that in them a favorable prognosis can always be risked.

In regard to curvature of the spine, if it be dependent upon weakness of the muscles, which are unable to keep the spinal column erect, it is always possible to correct the curvature in from two to six months if the treatment begins before any change has taken place in the vertebræ. In the latter case the Movements will erect the spine partially and stop the further development of the disease by restoring the general health of the patient. It must be the physician's first endeavor to attend to the general health and the causes which have brought on the curvature. That scientific movements must be a powerful means of restoration in this class of cases must be evident to every one, since, whether muscles be on the extremities or on the trunk, exercise must have the same effect on them.

In convalescence after fevers and other acute diseases the Swedish Movements have

been of great benefit in restoring the functions of the system. It must be observed that it is not the primitive disease, but the sequel of it, which is treated in such instances.

Neither excessive weakness nor great age forbids the treatment, as the passive movements are administered without any exertion on the part of the patient. During the seventy years' history of this practice in Europe it has been demonstrated that the aged, by using the treatment a short time once a year, may be rendered to a great extent free from the ailments so common during the latter part of human life.

A cure in ordinary cases of functional disturbance is attained by a treatment of from one to three months' duration, but in higher degrees of curvature of the spine (yet curable), and in constitutional diseases, a course of from four to six months, or longer, is necessary.

The treatment should be administered every day (Sundays excepted). The time required daily is from one to two hours, according to the character of the disease and the condition of the patient.

When we consider that the Movement-Cure affects the most important functions, such as absorption, assimilation, and nutrition, and that these never cease to act as long as the system is in health, it will be easily understood why treatment every day is necessary if good results are to be obtained. Cases occur, indeed, where treatment several times a day would have a much better effect.

I have so far treated of the effect of movement in a general way. Allow me now, by way of example, to contrast the treatment of that most prevalent disease, constipation, by Movements and by medication.

By constipation I mean here that state of the body in which the evacuations are less frequent or less in quantity than in a perfect state of health, and the discharges generally hard and procured with difficulty. The symptoms are, further, variable appetite, acid stomach, headache, cold hands and feet, and, in protracted cases, when large fæcal masses are collected in the rectum, pain in the sciatic nerve and difficulty in urinating.

The causes are indigestible food, sedentary habits, the protracted use of astringent, diuretic, and purgative medicines, mental anxiety, chlorosis, diseases of the spinal cord, weakness of the muscular coat of the intestines and of the abdominal muscles.

The liver is torpid and congested. The alimentary mucous membrane is to some extent congested, whence results deficiency of the required secretions. Now, if the due amount of blood can be brought back to the tissues and the other injurious causes removed, the constipation must yield. I desire to show that the Movement-Cure operates against all these causes.

As before mentioned, no medicines are used, whence this cause of disturbance is avoided. Proper diet is prescribed, and the Movements break up sedentary habits; mental excitement is diminished by directing the treatment so as to draw the nervous fund from the brain and rouse to action the lower portion of the spinal cord by exercising the muscles which get their nervous supply from this part. The liver and the accumulation of fæcal matter are directly operated on by kneading, vibration, and circular stroking (following the course of the colon), which movement removes congestion and promotes fæcal discharges by exciting muscular contractility in the alimentary tube. The respiratory organs are operated on for better oxidation of the blood, which, further, ought to be diverted to the extremities for a wholesome distribution of the circulation. The most obstinate case of constipation rarely fails to yield to a course of this kind persisted in for a few weeks.

Let us now consider the effect of medication in this condition. The drugs introduced into the alimentary canal irritate its nerves, as every substance will which does not consist simply of digestible food. The homogeneous contents of the intestinal tube are mixed with the drug, and the offended absorbent vessels thereupon refuse to perform their functions; hence absorption and nutrition are diminished.

Some portion of the toxic agent is absorbed into the blood, but, passing through the liver, the greater part of it is mixed with serum drawn from the blood, thus enfeebling the nutritive supply of the body, and then returned to the canal.

The mass in the alimentary tube is now acted upon by the emunctories with great power as the nerves are further irritated, and, only partly digested, is forced out of the tube, nature's only way to escape from impending harm.

It is true the alimentary tube has been

emptied for the time by directing the remedy against the most prominent symptoms, as medicine in general is directed; but we see plainly that nothing has been done to remedy the true cause of constipation, and in a very short time after the operation of the purgative the difficulty exists in a greater degree than before.

In the unpromising field of cardiac disease the Swedish Movements have effected some of their most surprising results. The following brief explanation may convey to the profession an idea of the treatment in this class of cases, and the mode in which it is beneficial.

Diseases affecting the heart we naturally divide into two classes, nervous and organic. The nervous affections of the heart are mostly connected with other derangements of the system, as asthenia, chlorosis, diseases of the digestive organs, and pelvic disorders, and are more or less curable in accordance with the curability of the primary cause.

The organic diseases are of quite another character, and though most of them, if they have existed a long time, are incurable, still even in such cases it is possible to give the suffering invalid great relief.

The most common are diseases of the valves, hypertrophy, atrophy, and fatty degeneration. For our present purpose we may consider simply disease of the valves between the left auricle and ventricle, as being the most common. Whether insufficiency or stenosis, the symptoms, as well as the treatment, are very much alike.

In insufficiency of the mitral valve the blood, which ought to be squeezed out of the auricle, partly returns, and in stenosis the heart has not power enough to force the blood out, and a greater or less quantity remains in the cavity. In either case, therefore, the circulation is interfered with in much the same way, and stagnation of blood in the lungs, with shortness of breath, heart-palpitations, and a diminished quantity of blood in the arteries, is the result. The symptoms of the last are principally observed in parts distant from the heart, whence cold hands and feet. To correct this, the heart increases its activity, and this extra work may go on for a long time, the one fault correcting the other, before it is observed by the individual. But at last, as the heart is a muscle and obeys the general law of muscular tissue that too much exercise is injurious, the active fibres become overworked and enfeebled, and the symptoms grow worse, with evidences of stagnation in the large venous circulation, as visible in the bluish complexion.

The functions of the organs nearest to the heart, as the liver, spleen, stomach, and kidneys, gradually become disturbed, and the patient is finally subjected to intense suffering from the accumulation of water in the tissues.

It will naturally be asked, How is it possible to help these sufferers by movements, when even so slight an exercise as walking only increases their discomfort? I answer, we must distinguish sharply between scientific movements and all other forms of exercise. As before observed, the heart endeavors by increased activity to distribute the blood through the system. This gives us a hint for treatment. We must diminish the irritation of the heart arising from the pressure of neighboring parts, and divert the blood to the different organs and distant parts of the body, thus diminishing its work and hence its tendency to abnormal nutrition and hypertrophy.

In the first place, irritation is diminished by keeping the spinal column erect by the due development of its muscles, thus expanding the chest and affording the heart all possible room.

Duplicated movements in attitudes of rest increase circulation, as well in the veins as in the arteries, in parts which are put in motion. The extremities are cold. Exercise of their muscles will therefore be useful. But if, in consequence of the weakness of the patient, these movements are unsuitable, rotations of the joints may be employed to increase the arterial circulation, and upward stroking of the extremities to accelerate the venous flow.

Vibration, kneading, and fulling aid both the circulatory systems. The circulation through the lungs may be assisted by respiratory movements, in connection with clapping and light vibration upon the chest. Passive applications over the abdominal organs will have a good effect in promoting circulation and absorption. The heart itself may be operated on by light clapping and vibration upon the chest, and its movements may be regulated by direct pressure upon either the vagus or the sympathetic nerve.

Whatever the form of disease, whether the power of the heart is diminished or in-

creased, the treatment in all cases ought to be, and unquestionably may be, so administered as to aid the circulation without exciting palpitation or stimulating the contractions of the heart.

In the treatment of patients with heart diseases, ill-instructed manipulators have inflicted much injury by using powerful active movements, and have thus brought the system into disrepute.

I mention this because I know how freely young men, and even children, in this country use gymnastic exercises without previous examination by a physician able to tell them the danger of strong active movements of the arms or trunk if they are afflicted with heart disease. Such cases are in Sweden sent to Movement-Cure institutions, and their records show many instances in which skilled diagnosis had pronounced the disease to be organic, and yet it subsequently appeared that the symptoms arose from weakness of the heart, or of some part of it, as they disappeared under the use of suitable movements.

During the year that I have been in this country I have been struck with the fact that so many sudden deaths occur from heart disease and apoplexy; but, knowing as I now do how gymnastic education is neglected or misapplied in the schools, and, further, having had opportunity to observe how narrow the chest is in most Americans, and how both men and women walk with the chest contracted and the back crooked, either from weakness or from habit, I no longer wonder. The most important organs in our body are thus kept under constant pressure. To prevent this it would seem to be high time to employ systematic movements, as well in public as in private schools, and thus complete education according to the idea of the great Plato. "A good education," he affirms, "is that which assures to the body all the beauty, all the perfection, of which it is capable.

"To secure this beauty, it is only necessary that the body should be developed with perfect symmetry from the earliest infancy.

"If exercise does not keep pace with the growth of the body, it becomes subject to I know not how many infirmities."

Pliny remarks, "The mind is stimulated by movements of the body," and Hoffman, that "we cannot perfect the art of healing till we learn to apply mechanics and hydraulics in medicine."

A CASE OF CHOKED DISK.

BY FREDERIC H. CARRIER, M.D.,

Resident-Surgeon Wills Hospital, Philadelphia, Pa.

FREDERICK McC., æt. 21, born in Philadelphia of illegitimate parentage, a farmer by occupation, was admitted to Wills Hospital August 18, 1880, under the care of Dr. Schell.

About two weeks previously he had been attacked by an erysipelatous swelling on the right side of the face, in the parotid region. This culminated, August 16, in an abscess directly over the condyle of the jaw. The abscess was poulticed and lanced the following day by his attending physician, and about one and a half ounces of pus were removed. He had taken internally the tinct. ferri chlor. Considerable constitutional disturbance had occurred at this time, and been made manifest by heat of skin, furred tongue, etc. He had suffered from intense pain in the right eye, and morphiæ sulphas, gr. $\frac{1}{8}$, hypodermically, had failed to give relief.

His condition at the time of his admission to the hospital, August 18, was as follows. The swelling prevented separation of the jaws beyond half an inch, and the inflammation had invaded the orbital region. The entire side of the face bore a dusky-red appearance, and pitted on pressure at some points near the margin of the scalp.

The right eye was closed by the swelling of the red and puffy lids, and bulged forward, projecting from the orbit about the size of an egg. No fluctuation could be discovered. There was severe pain in the ball, chemosis of the conjunctiva, and slight mucous discharge from the lids, which had commenced August 13.

This eye had been disabled since the age of twelve years, when the patient had suffered from a severe attack of measles. On referring to the hospital records, it was found that he had been an inmate of the house in July, 1879. He had been admitted at that time with central adherent leucoma, causing blindness, for the relief of which iridectomy had been performed by Dr. Schell, with the result of enabling the patient to count fingers at six inches.

In addition to the local symptoms previously mentioned as characterizing his condition at the time of his admission, August 18, 1880, he was feeble and tottering in gait, dull of hearing on the right side, slow of speech and comprehension, pale, and much emaciated. He had always stammered.

The local condition appeared to be that of orbital cellulitis, and he was ordered to bed and given potassium iodide, gr. xx, three times daily, and iced cloths were applied over the eye. His diet was necessarily fluid throughout the duration of his illness.

At the evening visit he complained so bitterly of the ice dressing that a warm flaxseed

poultice was substituted, and continued thereafter throughout the treatment. On August 20, the patient complained of being nervous and wakeful at night. He was ordered potassium bromide, gr. xxx, four times daily, and quiniæ sulphas, gr. iv, four times daily, and the potassium iodide was discontinued. Slight fluctuation having been detected, an incision one and a quarter inches in depth was made about a quarter of an inch anterior to the temporal artery and immediately above the zygomatic process of the temporal bone. A small quantity of sanious pus escaped. He was only permitted to rise from his bed when necessary during the first week.

August 21, the same treatment was continued, and another incision was made half an inch from and a little below the line of the external canthus. A few drachms of pus were evacuated, and a drainage-tube was inserted. The other two openings were probed at each dressing to favor the discharge as much as possible.

The patient seemed slow of comprehension and somewhat peculiar in his manner at this time, and disturbed the other patients by walking about the ward at night. He mentioned that there was a discharge of matter into his mouth, which he referred to the vicinity of the articulation of the jaw on the right side, but his teeth could not be separated sufficiently to permit an examination.

August 22, an abscess was opened in the upper lid. August 24, the drainage-tube was discontinued, no more pus being discharged. Beef-tea and milk-punch were ordered every four hours. He became very restless at night, but did not complain of any pain.

During the next few days the swelling of the face and lids gradually subsided. The patient appeared to be gaining strength, and was permitted to go about the ward and into the garden, but a certain lethargy and dulness were noticeable. He experienced some slight mental illusions, and annoyed the nurse, who slept near him, by asking in the night for anodynes, although quite free from pain.

August 28, slight wandering of the mind was noticed in the evening. August 29, potassium bromide discontinued. August 30, ordered ferri et potassii tartras, gr. v, thrice daily. Urine examined with negative result. Some hebetude noticed. September 1, tinct. ferri chloridum ordered, gtt. x, thrice daily. Ferri et potassii tartras discontinued, and quinine changed to two grains three times daily, instead of four grains four times daily. Abscess opened in lower lid. Patient very weak. September 8, patient drowsy, tongue dry. September 10, much hebetude, very dry tongue, jaws still closed by swelling. Pulse 60, receding; heart normal. Patient very weak; begins to refuse food.

The ophthalmoscope showed at this time a choked disk in the left eye; the top of the swollen nerve could be seen with $+\frac{1}{16}$, although the eye was emmetropic. The vitreous was slightly hazy, and there were some minute hazy spots in the cornea. There was apparent bulging of the bone in the right temporal region. He frequently passed his hand over this spot, but said he had no pain. The swelling of the lids and orbital cellular tissue was so much reduced at this time that the right eye could be seen, and had returned to its natural position in the orbit. Local symptoms all abated. His weakness compelled a resort to rectal alimentation with beef-tea and milk-punch. September 11, patient in a semi-comatose condition, skin bathed in cold sweat, urine passed involuntarily. Dr. Schell came prepared to trephine for pus in the right temporal region, but on consultation with other members of the hospital staff different measures were adopted. An examination of the head of the penis revealed a scar unmistakably syphilitic, and it was deemed advisable to mercurialize the patient at once. He was ordered hydrargyri chloridum mite, gr. $\frac{1}{4}$, every hour, and inunction by unguentum hydrargyri thrice daily. Ferrum dialysatum was substituted for tinct. ferri chloridum, and the quinia was omitted. The pulse was 52, very full,—a typical "brain" pulse. Left-sided paralysis came on during the night. September 12, patient quite comatose. Morning pulse, 106; evening pulse, 150. Death at 3 A.M. September 13.

At the autopsy, nine hours after death, rigor mortis was well established. Head only examined. The dura mater, where it was adherent to the middle fossa of the skull on the right side, showed some effects of inflammation. Three abscesses, one the size of an egg and two smaller ones, were found in the substance of the middle lobe of the brain on the right side. The largest abscess lay within three-eighths of an inch of the outer wall of the brain, and precisely opposite the point where the temporal bone had seemed to bulge and where the pressure of pus had been thought to be indicated before death. The smaller abscesses communicated with the larger, and all three lay close to the base of the brain, being separated from the bone by a thin stratum, perhaps not over one-eighth of an inch in thickness, of cortical tissue, which gave way in the removal of the organ from its natural position. After carefully dissecting the dura mater from its attachments to the middle fossa of the right side, pus was found oozing from the foramen ovale, and a probe pushed gently into the canal caused a small stream of pus to exude. It was found after close examination that the inflammation had passed along the sheath of the inferior maxillary nerve, from the original focus about the ramus of the lower jaw, through the foramen ovale to the brain.

The sheath of the optic nerve was apparently quite healthy. No pus was detected in the orbit.

There was no collection of serum in the sheaths of the optic nerves, the sheaths lying in close apposition to the nervous tissue.

It is evident that the inflammation in this case was of the type of phlegmonous erysipelas, although its steadily localized character and apparent indisposition to spread prevented its true nature from being recognized at the outset. The orbital cellular tissue was, however, fully affected at the date of his reception into the hospital, and had been in that condition for some time previous. Pus never formed in the orbit in such quantity that it could be detected by palpation, but it is very probable that the abscess, which pointed at the outer angle of the orbit, communicated with the orbital cavity, and that whatever pus was produced in the cavity found an exit by way of this abscess when it was opened. Although this could not be demonstrated by the probe, yet the facts that the exophthalmos subsided *pari passu* with the discharge from this point, and that similar terminations to orbital cellulitis are not unknown, give strength to the conclusion.

The inference that the inflammation had passed backward from the orbit to the brain and had there led to the formation of pus, though warranted by the symptoms during life, was proved to be incorrect by the post-mortem examination, in so far as the track which the disease had followed in its inroad upon the cerebrum was concerned. The peculiar route which the disease did follow was quite unanticipated, and, so far as the writer knows, unusual.

It is not known at what stage in the disease the choked disk made its appearance, as the early brain-symptoms, although recalled afterwards, were not at the time of their occurrence of sufficient gravity to attract attention. The fact that the man had always stammered was also to some extent misleading. As is well known, choked disk does not affect the acuity of vision, and, although the right eye was much impaired in its usefulness from previous disease, the vision of the left was as good as ever to the last.

It is worthy of remark that the patient was never known to have either a chill or a spasm of any kind throughout the duration of his illness.

STILLING, of Strasburg, thinks he has demonstrated a spinal root of the optic nerve.

COMPOUND COMMINUTED FRACTURE OF THE SKULL.

Reported by HENRY M. WETHERILL, M.D.

ADMITTED to the surgical ward of the Pennsylvania Hospital, March 6, 1880, under care of Dr. William Hunt, Alexander L., æt. 34, married, laborer.

This man while unloading a vessel fell from the gang-plank which lay between the ship's side and the wharf, striking his head against the latter and falling into the water, from which he was rescued with difficulty and brought to the hospital.

On admission, the patient's condition was noted as follows. He is quite conscious, and converses rationally, not having symptoms of concussion or compression of the brain, but the respirations are shallow and hurried. Over the occipital bone, rather to the left of the median line, is a lacerated contused wound of the scalp two inches in length, including all the tissues to the skull. At the bottom of this wound is felt a depressed fracture of the skull, the depression extending laterally the entire length of the external wound, and the sharp, rough, fractured edge of the occipital bone. There is no bleeding from the ears; but when he coughs or swallows, a liquid resembling bloody serum flows from his nostrils. The conjunctivæ are reddened by effused blood. The pupils are quite normal and respond to light. The pulse is 120, and so weak as to be almost imperceptible. The respirations are shallow, jerky, 36 to the minute. Temperature 97° in the axilla. The external hemorrhage has been trifling, but there is considerable effusion of blood into and under the scalp covering the occipital bone, with great contusion. Careful inspection fails to show any other injury save a few slight contusions.

External warmth was applied, and hot beef-tea given internally. A cool water dressing was applied to the entire head. By the next morning he had rallied well from shock, and was conscious and rational. Respiration and deglutition much embarrassed, but rather less so than when admitted. He had retention of urine, which being drawn was found to be abundant and very pale, sp. gr. 1008, otherwise normal. He complained of constant but not severe headache. Pulse 90 and of fair strength. Ordered him potass. bromid., gr. xx t. d., and restricted liquid diet. Water dressing kept upon head.

Upon the 9th, four days after admission, his condition was about the same: respiration 30; temperature 98.5°. Paralysis of bladder continued, but bowels moved freely without medicine.

Upon the 12th, the pain in head had gone, but the respirations were still much embarrassed, 26 to the minute, temperature 99°. The wound looked well; no spiculæ of bone could be found, nor was there any hernia of cerebral

tissue. Bowels moved spontaneously. Condition of bladder continued. Wound dressed with lint soaked in carbolized oil. His general condition was quite good, and so remained until the 14th, when suddenly, about noon, he became worse, complaining of intense pain in the head, and within an hour the respirations became more rapid and shallow (34 to the minute), and he became quite unconscious; pulse 74, full, no stertor, but facial expression anxious; surface cool, face congested. The pupils, which up to this time had been normal, were now very irregular, sometimes contracted, sometimes dilated, and not acting in unison. Ordered warm pediluvium and friction of extremities with dry mustard, cold applications to head, and internally gave ol. tiglii gtt. ii, followed in four hours by enema containing soap and oil of turpentine. This failed to act. The patient did not return to a state of consciousness, but died in profound coma, death being apparently due to failure of respiration, eight hours after the change in his condition was observed.

Notes of the autopsy, made ten hours after death, as follows. Rigor well marked. The skull is abnormally thin, especially so in the depressions in calvarium for the reception of the Pacchionian bodies, which in this instance are large and numerous. The dura mater very firmly adherent to skull. Considerable amount of subarachnoid effusion, which is purulent. There is a large depressed fracture of all the tables of skull in the left side of occipital bone, from which springs a fissure running up to the temporal bone on the lateral sinus, with several small detached spiculæ of bone, some of which are imbedded in the cerebral substance. There is another fissure starting from this main depression and running into the foramen magnum. Anther fissure starting from the same point and running into the torcular Herophili, at which point are two small spiculæ of the internal table. There is another large depressed fracture of all the tables, with great starring and splintering of inner table, found in the anterior cerebral fossa, fracturing and comminuting the entire roof of the right orbit, from which runs another fissure which crosses and involves both the right and left middle cerebral fossæ. The meninges are freely dissected up from the surface of the convolutions by purulent effusion, so that the convolutions can be readily freed from the membranes and exposed. The entire brain is very much congested; the puncta vasculosa being prominent. The lateral, third and fourth ventricles are distended with purulent, bloody serum, in which float shreds of recent inflammatory lymph. On the left side of the brain in the posterior cerebral lobe, corresponding to a large fissure in the skull, and about one-half inch below the cortical and within the medullary portion of the brain, is an abscess about the size of a walnut, containing about a fluidounce of thick, greenish-yellow pus. The entire base of the skull was occupied by a mass of clot. The other organs were found to be in a normal state, and the bladder was empty.

The condition of the patient during the nine days following the accident afforded but little clue to the overwhelming damage done to the skull and its contents. The only apparent lesion was the depressed fracture of the occipital bone; and the reason that the trephine was not applied and the fragment elevated was that a somewhat shallow and hurried respiration was about the only symptom which the patient presented. It was fortunate that such was the case, as nothing beneficial could have resulted from its application. There was no decided paralysis, either of motion or sensation. The bladder did not act, but the bowels moved freely without medicine. This man was conscious, rational, and knew well the dangerous nature of his injury, expressing a hope that when he recovered his mental condition would be good, so that he could support his family. The expectant treatment was the only one to be thought of in such a case. The patient was not bled, he was not given calomel, he was not purged until the very last, when compression of brain became manifest, nor was his skull subjected to any surgical fumbling. At one time it was a question whether the respiration could not be improved by elevation of the depressed portion of occipital bone; but the application of force to one portion of this skull would have caused great pressure with probable laceration of the brain at many points. What killed this man? Apparently, embarrassed respiration; but there must have been a fresh cause, a new factor at work upon this ninth day.

The abscess, I think, cannot be looked to as precipitating the fatal result, as it was found to be quite circumscribed, the pus not having opened any ventricle.

The enormous blood-clot—which occupied the entire base of the skull, and which must have exerted great pressure upon the most delicate structures—would have proved fatal at an earlier day than the ninth; without, indeed, a fresh intracranial or intra-cerebral hemorrhage had occurred, which factor was absent, as the autopsy showed no signs of recent hemorrhage. It would be an error to state that any one factor was the cause of his sudden demise; but, given a brain sub-

jected to all the pressure and contusion compatible with the exercise of its functions, working along for eight days, plus a sudden effusion into all the ventricles upon the ninth day, result, sudden death, appears to be a reasonable hypothesis when we consider that in injuries of the brain, even of an extensive character, involving considerable inflammation, sometimes the effusion does not occur until after the lapse of five or six days; then, a rather sudden effusion pouring into or upon the cerebral tissues, a fatal result is precipitated.

1237 Arch Street.

TRANSLATIONS.

Diagnosis between Cystitis of the Neck of the Bladder and Prostatitis, and between the Latter and Cowperitis.—*Le Concours Médical* (1880, p. 532) gives the following from Fournier:

Cystitis.	*Prostatitis.*
1. Characteristic vesical tenesmus; frequent and imperious desire to urinate.	1. Vesical tenesmus less marked; rectal tenesmus more noticeable; frequent urination not present.
2. Micturition especially painful at the moment when the last drops of urine are passed.	
3. Excretion of a dysenteric liquid, mixed with pus and blood, at the last moment of urination; pure blood sometimes passed.	3. Nothing of the kind observed.
4. Simple perineal sensibility; irradiating pains towards the anus, less violent than in prostatitis.	4. Deep perineal pains (very severe, and increased on movement), defecation, etc.
5. Prostate normal.	5. To the rectal touch the prostatic tumor is perceptible; very tender, hard, etc.
6. No retention of urine.	6. Dysuria, retention of urine, etc.
7. Few or no general symptoms.	7. General symptoms; fever, loss of appetite, etc., pretty well marked.

Cowperitis is sometimes very hard to distinguish from prostatitis, because the two glands are so near together, and this is especially the case when the disease is somewhat advanced, the whole locality being swollen and phlegmonous. However, careful exploration will usually serve to distinguish the two affections. The passage of an acorn bougie will also serve to show the absence of pain in the neighborhood of the prostate. The course of cowperitis is also different. It shows itself as a phlegmonous tumor adherent to the bulb, limited to the point occupied by Cowper's glands, and having, at first, no connection with the canal of the urethra. The pus in cowperitis points very rapidly towards the perineum, and the vesical symptoms are so slight that some writers have denied the possibility of complete retention in cowperitis.

Anatomical Preparations at the recent Paris Exposition.—A report by Prof. Haivion (*Jour. des Sci. Méd.*, November, 1880, p. 529) says that the exhibition of anatomical preparations for teaching purposes was very complete. Laskowski exhibited specimens injected through the arteries with glycerin and carbolic acid. These specimens preserved their size, flexibility, and color for six to eight months. They could easily be dissected, and are likely to be useful in summer and where cadavers are hard to procure. Prof. Marini, of Naples, exhibited (1) dry specimens having the property of reassuming their freshness and suppleness, with their natural color, when soaked in a special liquid; (2) preparations preserved in a permanently fresh condition; (3) a preparation in which the process of putrefaction had been arrested after twenty days; (4) a heart, having a penetrating wound two centimetres in size, preserving its fresh condition and natural color; (5) petrified specimens, obtained by a process which can be utilized for the preservation of entire bodies; (6) a foot and hand, in the dry state, of great historical interest, Prof. Nélaton having certified that the foot had been seen by him in the dry state in January, 1868, and when again seen, one month later, had resumed its soft and supple condition, so that he could dissect it in part. A similar certificate from Prof. Sappey, dated 1864, accompanies another specimen. This process may in time prove useful in medical teaching and in medical jurisprudence. Prof. Marini keeps his process a secret, having offered it to the Italian government upon terms which have not up to this time been accepted. Dr. Wywod-

zoff, of St. Petersburg, believes this process to be essentially the same as one which he himself has devised. He uses a peculiar apparatus with the following solution: thymol, 45 grains; water, 2 pints; glycerin, 4 pints. He considers this the best mixture for the injection of the entire cadaver, an extremity, or a viscus. Salicylic acid, he thinks, is as good for preserving the cadaver, but must be brought into immediate contact with every portion. The quantity of liquid necessary to embalm a body is nearly one-half its own weight. The cavities must not be opened; the injection must be made very slowly. To inject an extremity, the part should be dipped in hot water and the medullary cavities plugged. M. Wywodzoff gives also further details of his procedure and formula. Among the most interesting of the anatomical and pathological specimens are those models of skin diseases for which Baretta is so famous. He is the founder of the famous museum of the St. Louis Hospital, which now numbers 1100 specimens. Baretta makes a plaster cast of the part to be reproduced, and pours into this his peculiar composition, already colored in various shades so that its color is unchangeable. These models are of the greatest use in places where large skin clinics do not exist. They are sold for an average of fifty francs apiece, and a good collection of fifty is sufficient for teaching purposes.

Normal Ossification.—Kassowitz, in the first part of a work intended to include a study of the osseous system in health and in rachitis and hereditary syphilis, asserts that he believes he has been able to develop a uniform theory of the entire process of ossification which brings all the various peculiarities into unity and does violence to neither logic nor fact.

As to the question, of surgical interest, whether growth takes place by expansion or apposition, Kassowitz declares in favor of an invariable apposition process, regarding expansion as impossible. With regard to the formation of bone-substance, Kassowitz considers that the embryonal structures either develop directly from periosteum to bone or else first become cartilage. He thinks that non-vascularized tissue cannot develop bone. Cartilage is not developed in localities entirely protected from pressure and rubbing; nor is it ever found within firm, bony, diaphyseal tubes. (This view is, however, contested by other observers.) Kassowitz regards the growth of cartilage as always interstitial. As to the resorption of bone, he says that the circulation of tissue "juice" about the blood-vessels hinders the deposit of lime-salts and dissolves the salts which have, under other circumstances, been deposited. He regards the giant cells of Kölliker and Wagner (Kölliker's osteoclasts) as products of change in great part of an originally compact fibrillar structure.—*Cbl. f. Chir.*, 1880, p. 762.

Absorption by the Urethral and Vesical Mucous Membranes.—According to Maas and Pinner (*Cbl. f. Chir.*, 1880, p. 773), repeated researches have been made during the past few years with the view of ascertaining whether the contents of the bladder diffuse with the fluids (blood, lymph, etc.) circulating in its walls. Kaupp found that water was most rapidly absorbed of the various contents of the bladder; urea, also, in considerable quantity; while contained chloride of sodium solution took up fluid from without. According to Wundt, this absorption of water is particularly marked during sweating. Other investigations confirm this. The absorption of poisons by the bladder was noticed by Ségalas and Orfila. Demarquay observed the absorption of iodine; Black, of mercury. Küss, Susini, Alling, and H. Thompson deny the resorptive capability of the vesical mucous membrane.

The consideration of these contradictory results of investigation led Maas and Pinner to experiment for themselves, with the following result. They found that in the healthy human bladder pilocarpin, and also iodine, to a certain physiological degree are absorbed. In catarrh of the bladder of a mild grade the capacity for absorption is increased. The healthy bladder of dogs and rabbits absorbs ferrocyanide of potassium and salicylic acid, as well as cyanide of potassium and strychnia, with considerable rapidity.

Artificial cystitis—excited by injections of turpentine—appears sometimes to hasten absorption, while at other times it delays it. Alling asserts that the reason why all researches into absorption by the bladder are positive in result is because the fluids are either absorbed by the urethral mucous membrane or find their way into the circulation through some abrasion in the

vesical mucous membrane. For this reason our authors cut off the urethral mucous membrane, by ligature at the neck of the bladder, and examined its resorptive faculty separately. They found that the urethral mucous membrane absorbs with great facility, so that the materials used were taken up as quickly as if they had been injected subcutaneously. The pars pendula appears to be most active in absorption: at least experiments upon a patient in whom the penis had been amputated close to the symphysis pubis, on account of carcinoma, showed no absorption in the posterior portion of the urethra.

A New Method of Anæsthetizing the Pharynx.—Rossbach (*Wiener Med. Presse; Cbl. f. Chir.*, 1880, 743), with a view to avoid the inconveniences of the local anæsthetics at present used in the pharynx, has endeavored to benumb the sensibility of these parts by internal medication, administering bromide of sodium in large doses with good effect. Since, however, the condition of stupidity and listlessness produced in the patient greatly interfered with the success of the operation, Rossbach endeavored to cut off the conduction of the sensory nerves of the pharynx, and thus to produce complete anæsthesia of the pharynx. The origin of the sensory branch of the superior laryngeal nerve lies at the point where this passes through the hyo-thyroid membrane, below the knobbed end of the large horn of the hyoid bone, into the pharynx. The nerve is so superficial at this point that a subcutaneous injection of one-tenth grain of morphia on each side at this spot anæsthetizes with the best results. Still simpler, and as certain, is the interruption of conduction by cold, as by means of Richardson's spray-producer, which has been modified by Rossbach so that the spray issues by two little openings, which are arranged to play upon the nerves of both sides at once. Anæsthesia is producd in from one to two minutes.

Hydrops Genu Intermittens.—Under this name Pletzer, of Bremen (*Deutsche Med. Wochens.; Cbl. f. Chir.*, 1880, p. 752), gives the case of an otherwise healthy woman of forty, who for twelve years had suffered from a painful swelling of the right knee-joint, which attacked her suddenly, without obvious cause, was accompanied by considerable fever, and lasted seven to eight days, ending in spontaneous recovery. Three months later the same trouble occurred again, leaving in the same manner. This continued for four years, the attacks occurring at regular intervals. A regular intracapsular effusion into the knee-joint was demonstrated. The usual remedies—quinine, arsenic, iodine douches, etc.—were used in vain. Sulphur and saline baths, however, were employed to some advantage, the attacks growing gradually slighter, but recurring at shorter intervals,—that is, with only eleven days' intermission. The baths having been discontinued, the disease assumed once more the type of three months' interval. Other "cures" were tried without benefit. After a time symptoms of Basedow's disease began to show themselves, and the exudation in the knee-joint ceased to occur. An improvement in the patient's general condition was followed by a relapse of the knee trouble, which recurred at intervals of eleven days again. In February, 1879, the patient became pregnant, when the hydrops disappeared, but symptoms of the Basedow's disease again showed themselves, which did not diminish until the knee began to swell again. Pletzer considers the affection a vaso-motor disturbance.

Nerve-Stretching in Tabes Dorsalis.—Eulenmeyer adds a third successful case to those of Langenbuch and Esmarch (*Cbl. f. Chir.*; from *Cbl. f. Nervenheilk.*, 1880, No. 21). While the two latter surgeons resorted to this procedure because of the severe pain, Eulenmeyer performed the operation with a view to cure the ataxia, a result which Langenbuch and Esmarch accidentally found to follow nerve-stretching in their cases. His patient was a man of thirty-nine with well-developed tabes. The ischiatic nerves on each side were stretched through incisions made in the ischiatic notch. The result was not altogether satisfactory: the patient was enabled to stand, which previously he had not been able to do, but the ataxia remained the same. Eulenmeyer thinks this may have been because the nerves were not stretched enough.

Treatment of Hemorrhoids by Dilatation.—Junqué (*Bull. Gén. de Thérap.; Thèse de Paris*, 1880) recommends forced dilatation for the cure of hemorrhoids. The operation should be performed slowly and by means of the speculum. Junqué says it is without danger.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, JANUARY 29, 1881.

PUBLISHERS' NOTICE.

THE circulation of *The Philadelphia Medical Times* during February and March will be twenty thousand copies. The surplus copies will be mailed direct to physicians in the West and South, affording a special opportunity for advertisers to secure the advantage of an extra circulation without any increase in rates.

EDITORIAL.

AMENITIES OF MEDICAL JOURNALISM.

THE parable of the camel's discomfiture by the needle's eye may with some safety be applied to the attempt of an editor so to conduct a medical journal as to satisfy everybody. The legend of the old man and his ass is very suggestive of the situation, but not half strong enough, for the old man succumbed after his third attempt, while the editor's experience is a perennial wrestle with the opinions of those who watch the game. How easy it seems! Not a critic but could play it better. Not one who could not make things go as smoothly and noiselessly as a Jürgensen watch. Let him try it. He will soon find himself thinking of that shrewd magician who, after showing that a little trick with cards was apparently very simple, said, "It looks easy, doesn't it? Well, practise it sixteen hours a day for eight years, and you'll do it almost as well as I do."

Probably the lookers-on have no idea of the trials with which an editor has to contend; and the impatient critics are commonly those who increase his burdens, —men who feel that he has wronged or snubbed them or is indifferent to them. Their manuscripts have been rejected. "The editor does not know a good thing when he sees it. He is partisan; one-sided; deals in favoritism; doesn't know how to run a journal; is full of unworthy prejudice, etc." Little they imagine how much less trouble it would cost him to publish everything that comes to hand, and thus please all writers, good and bad. How long would a journal exist if no discrimination, no censorship, were devoted to what is sent for publication? In that case imagine the *olla podrida* it would become!

Some men write only when they have something new to say,—something which they hope will be of use to the profession, or give rise to a healthful discussion, or lead to experiment. They write intelligently and unselfishly. Such matter is welcomed. Another, and unfortunately a large, class write for notoriety. They wish to be seen in print. They bid for practice. A fine example of this is Waldenburg's work on inhalation. One would hardly believe it amounts to nearly one thousand pages. An editor recognizes these fellows in what they write. The axe they would grind is easily seen. It is the editor's business to weed out stories so familiar that they are in the very air of medicine. This is not a pleasant task, but the experience is a healthful one for these anxious aspirants for practice, to gain which they are not at all particular as to the how. It certainly is the duty of an editor to give such men their proper place. If his aims are worthy, it is the support of the strong and sincere that he would win, and not the worthless approval of self-seekers who care neither for the success of the journal in which they would publish their fourth-hand matter, nor for the principle which should lead every medical writer to achieve something which will help brother practitioners and not merely cumber a periodical. There are, too, men whose enemy has written a book.

The opportunity being too good to be lost, they ask the publication of reviews in which, with scathing bitterness, they bespatter the unfortunate author with the ink of a criticism so unjust and discourteous that their manuscript is properly discarded by the editor, who thereby incurs unsparing disfavor.

These are extreme cases, of a nature, one would think, easy of management. But there are scores of contingencies to decide which calls for serious thought. The editor would not needlessly offend, neither does he like to feel that he is obliged to propitiate anybody. Still, if he would ever have blue skies and pleasant breezes in his sanctum, he must perforce pocket a certain degree of his independence. Thus it happens on occasion that he temporarily widens the meshes of his censor's sieve in order to give passage to an article which is too dull, too stale, or too youthful for the best interests of his journal. All, however, cannot be grain. It would indeed be a remarkable periodical which never contained chaff, for chaff often clings to the very corn itself.

The number of impulsive communications written by physicians of hasty mood and reflecting on fellow-practitioners is larger than would be believed. The suppression of these is an act of friendship on the part of a careful editor, and the impatience he thus creates in the souls of the writers is, in the majority of instances, succeeded by a feeling of thankfulness for his wisdom. But readers little know how few and rare are the expressions of approval which greet and cheer an editor, even of a successful journal. It is a common and trying attribute of human nature to criticise and condemn without stint, and, it may be, without cause; but praise and approbation, like an elided word, are left to be understood.

Of the unpunctuated, illegible, ungrammatical, tautological manuscripts; of the unreturned proofs intrusted to the hands of authors for correction; of the individuals who come to give gratuitous and useless advice; of the bores who think the journal cannot move without their counsel; of a thousand other trials and annoyances, nothing need be said. These *impedimenta* form a part of the machinery of every journal. When a reader inclines to criticise a journal, let him first try his own hand at the helm, and he will not long remain ignorant of the rocks and shoals which lie in the way of plain sailing. Let it be remembered, too, that a course which to the uninitiated seems to lead directly away from the object to be attained may be merely the symptom of a head-wind which forces the ship into a zigzag route, even though she be steadily nearing the haven.

PROCEEDINGS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, DECEMBER 9, 1880.
THE PRESIDENT, Dr. S. W. GROSS, in the chair.

Aneurism of the cœliac axis. Presented by Dr. E. T. BRUEN.

THESE specimens were removed from the body of a colored man, aged about 32, who died in the Philadelphia Hospital a few weeks since. In abstracting my notes on his case I record that a syphilitic history was admitted, but that the individual had been a temperate man in the use of alcoholic drinks.

A pulsation could be felt about two and a half inches below the ensiform cartilage, but a distinct tumor could not be felt. There was no thrill. Careful percussion developed impaired resonance the breadth of the middle finger only. By auscultation, a murmur very prolonged, low-pitched, and of systolic rhythm. There was no bruit, nor could the murmur be heard in the femorals or at the bifurcation of the iliacs; it could not be heard at the back. It was heard first at ensiform cartilage, grew louder till a point two and a half to three inches below the sternum was reached, and then faded away. A deep-seated burning pain was lamented, and also a scattering pain radiating around to the anterior median line along the ribs: this pain he described as sharp, and at times it was much worse than others. Both sorts of pain were relieved by change of posture. His favorite attitude was

lying prone on the face. This helped vastly to mitigate the pain.

A treatment of rest was commenced, and it was designed to place upon him a plaster jacket, commencing the roller high up in the chest and to continue it to the hips. It was hoped that this would aid in fixing the aorta and aid in the treatment of rest in bed, a restricted and selected diet, and the drugs usually employed in these cases. It was decided to apply this dressing on a Wednesday. The day before, the man rose in the morning, expressed himself as feeling quite well, and was engaged in making his toilet, when he suddenly cried out and dropped dead.

Autopsy.—The abdominal cavity was filled with coagulated blood. A saccular aneurism about as large as a good-sized lemon projected from the left antero-lateral surface of the aorta. The walls of the sac were most attenuated; at the periphery of the tumor the external coat was about as thick as a piece of paper, and very brittle from calcareous deposit. The sac, when laid open, was found to be only partially filled with friable clots, not organized into layers, but irregularly disposed over its walls. The rupture occurred at the point most remote from the aorta, at the periphery of the tumor. The orifice communicating with the aorta was very small, about the size of a large hickory-nut. The other parts of the aorta and the heart were normal. The lungs, liver, and kidneys presented a natural appearance.

I would comment briefly on the infinite importance of quiet and rest in the treatment, and the advantage of fixing the aorta by means of the permanent dressing. Certainly the lateral movements of the body would have been much restricted, and the aorta probably saved many a flexion. Only at the last meeting I spoke of the supreme importance to the diagnostician of the prior history of the conditions favoring arteritis, and the evidence of pressure in the path of the aorta, and the percussion-signs of tumor. In addition to what I then said, let me add a word concerning the murmur as present in the case. The absence of bruit, the prolonged low-pitched murmur, with the systole, suggested to me that this was a fusiform aneurism caused by a general dilatation of all the coats of the aorta, especially as the evidence of tumor was so slight so far as percussion was concerned.

The orifice communicating with the aneurism was so small that very little blood probably entered and left the sac; besides, the sac was partially filled with clot, and at the autopsy it lay on the trunk of the vessel, doubtless obstructing its lumen, and I suggest it may have caused the murmur. The ante-mortem inference as to the shape of the aneurism has been, to my mind, sustained by the autopsy.

I show with this case an aneurism exhibited some time ago to this Society, the sacs entirely filled with laminated clot, and in which case there was no murmur, unless the tumor, which projects anteriorly at the second right costal cartilage, was pressed upon so that the calibre of the aorta was lessened. A distant, long, low-pitched systolic murmur, without a taint of bruit, indicates to me that the sac of an aneurism is mostly filled with clots; and, unless I can identify a tumor by palpation or percussion, or by the symptoms of pressure on adjacent organs, I am apt to infer the existence of an aneurism by general dilatation of the coats of the vessel from the above-mentioned murmur. I do not mean to say that these general dilatations do not cause pressure-symptoms, but merely that these are not so pronounced, as a rule. But in this case the murmur deceived me, and a saccular aneurism only half filled with clots exists; but I hope the very small opening leading into the aorta will be deemed a valid reason for the absence of pronounced bruit.

Dr. NANCREDE took exception to the term "abdominal" aneurism, as he thought that a careful examination of the specimen showed conclusively that it was due to a dilatation of the cœliac axis, and did not involve the aorta at all.

Dr. BRUEN thought that this trunk might be partly involved, but was inclined to think that a part of the walls of the aneurism was formed by the aorta.

Dr. NANCREDE explained the anatomical reasons upon which he had founded his opinion, and which he thought were conclusive.

The President said that, as there seemed a difference of opinion on the subject, he would refer the specimen for examination to a special committee consisting of Drs. Bruen, Nancrede, and Formad.

"The committee appointed to examine the tumor agree to pronounce it an aneurism of the cœliac axis rather than aorta proper. This explains the fact that the orifice leading into the aneurism is so small, as it is the dilated cœliac vessel; but remarks in reference to the etiology of the murmur are equally pertinent.

EDWARD T. BRUEN,
C. B. NANCREDE,
H. F. FORMAD."

Spindle-celled sarcoma of the skin. Presented by SAMUEL W. GROSS, M.D.

Records of examples of sarcoma of the skin in the medical journals and references to that disease in the text-books are so very uncommon that I am induced to bring the specimen before the Society.

A married woman, 23 years of age, was brought to my clinic at the Jefferson Medical College Hospital on the 29th of September, 1880, on account of a painless tumor of the integument of the buttock, which was of the size of a small lemon, of a firm elastic consistence, and with a discolored and rugous surface. She first noticed it as a shot-like tubercle about three years previously, and she informed me that she had struck it a few

weeks before, and that the injury was followed by slight bleeding and rapidity of growth.

On section after removal, the cut surfaces were of a rosaceous-yellow shining hue, and had a fibrous tear. Microscopically, the growth was characterized, as can be seen from the accompanying slide, by small spindle cells contained in a homogeneous intercellular substance. Up to the present time the tumor has not recurred.

Dr. DUHRING asked whether in this case there was more than one growth. Although it was now, of course, difficult, or impossible, to determine the exact starting-point of the neoplasm, yet he was inclined to think that its site had been the subcutaneous cellular tissue. Dr. Gross, he remarked, was correct as to the rarity of such growths, all authorities making similar statements. Indeed, Kaposi, the most recent German writer, one who has devoted especial attention to the pathology of skin affections, only devotes a short chapter in his treatise to sarcoma of the skin. He treats of the disseminated pigmented form only, which seems to be the most usual multiple form assumed by sarcoma when attacking the integument. Dr. Duhring knew of only one instance which had been reported in this country within the past ten years. This variety of sarcoma, however, was of such a different form from that presented this evening that he would not enter into any further details.

The whole subject of sarcoma of the skin had been opened up by a case reported by him. He had described the case at the meeting of the American Dermatological Association held at Saratoga in 1878 as an "Inflammatory Fungoid Neoplasm." A year later, at the third meeting of the same Association, he had read a supplemental report upon the case, when, owing to the report of Dr. Heitzmann, he had been inclined to suspect its sarcomatous nature. The disease represented by this case was closely allied to sarcoma, if not true sarcoma. About the same time Geber reported a similar case, also under the caption "Inflammatory Fungoid Neoplasm."

Kaposi, in commenting recently on these cases, says that he has no doubt of their sarcomatous nature. All the cases so far have proved fatal in about two or three years. Dr. Gross had described his case as a "spindle-celled" sarcoma. Dr. Duhring would like to ask whether, in his experience, the round cell was not much the commoner variety.

Dr. GROSS said that he had notes of eight cases of sarcoma of the skin, but that he had been unable to find them in time for the meeting. He was, however, of the impression that Dr. Duhring's statement as to the greater frequency of the round-celled form was correct. The general history of these neoplasms is that they are most common after the fortieth year, that they soon ulcerate, and that they exhibit a decided tendency to recur after removal. With regard to metastases and the final termination he was quite in the dark, as he had been unable to follow his cases. He thought that the apparent rarity of the disease was explicable by the fact that tumors usually come under the care of surgeons, and not of dermatologists. He would call Dr. Duhring's attention to Billroth's "Chirurgische Klinik," in the several volumes of which publication about twenty cases of sarcoma of the skin of various portions of the body are detailed.

Dr. DUHRING called in question the propriety of the term "sarcoma of skin," and thought that its primary seat had been the subcutaneous connective tissue.

Dr. GROSS said that there could be no doubt that it arose from and was limited to the skin, and stated the reasons for his belief.

Dr. FORMAD said that he had lately examined one of many nodules situated in the skin, which had been removed and sent to him by Dr. Nash, of Norfolk, Va. The microscope demonstrated that the growths consisted of round-celled sarcomatous tissue originating in the true skin.

Cancer of liver, with metastasis to the brain and other organs—Destruction of the occipito-temporal convolution without affection of special sense. Exhibited by Dr. H. F. FORMAD for Dr. H. C. WOOD.

T. C., æt. 42, came to the nervous wards of the Philadelphia Hospital early in September, 1880. He stated that he had been a heavy drinker, but had enjoyed good health until the last of August. On September 2 he was seized with giddiness, which lasted over twenty-four hours, but which did not leave him paralyzed. He affirmed that this was the first spell of the sort he ever had, and denied syphilis, headache, or any other known cause or premonitory symptom of the attack. Since the period of unconsciousness he has suffered from continued headache, loss of memory, giddiness, and frequent vomiting, the latter occurring without connection with the state of the stomach as to food, and not rarely in the night, as well as in the daytime.

September 15.—There were no signs of local palsies, and no disorder of vision, and the gait was perfect. There was partial bilateral deafness, which he states was of long standing; there was no anæsthesia. No disorder of the taste or smell was detected, although neither was closely looked for. The right hand exerted a power of 85, the left hand of 92. The liver was found to be very much enlarged, hard, and nodular, and the diagnosis of hepatic cancer was reached. There were no changes in his nervous symptoms, and he was sent to the general medical ward, October 27.

During the last two weeks of his life his mental powers failed very distinctly, his speech became somewhat incoherent, and his memory exceedingly faulty. He died November 10.

Autopsy.—Brain normal, except the under central portion of the posterior lobe of the left side; springing from the membranes in this position was an irregularly ovoid tumor about an inch and a half in the greatest longitudinal and transverse diameters, and about an inch thick. The tumor was of elastic, hard consistence, of dark-red color, and had the appearance of a firm old blood-clot; it was not encapsuled. It had pressed upon and destroyed, by softening, almost the whole of the central portions of the occipito-temporal convolutions. The hippocampus was touched upon, but not altered to any extent. The softening had progressed so far as to open the lateral ventricle, the destruction not involving any of the central ganglia or the crus cerebri.

The membranes of the brain were abnormally thickened everywhere, and the fissures were bound together by inflammatory exudations. The one corner of the tumor had produced a small superficial spot of softening in the cerebellum; the attachments of the tumor to the surrounding tissues were very loose. A decided increase of cerebral fluid, turbid in appearance, was observed. Skull normal.

Examination of the thoracic cavity revealed pericardium and right lung and pleural sac normal. In left pleural cavity extensive adhesions and two pints of a turbid effusion were found; left lung strongly congested, and a wedge-shaped cavity of evidently embolic origin was seen.

Mediastinal and bronchial glands enlarged; heart normal. The abdominal cavity contained over one gallon of a straw-colored liquid; no peritonitis.

Liver very much enlarged; weight nine and a half pounds, of dark-brown color, and studded with the protruding, umbilicated, white nodes peculiar to cancer, varying in size from one-half inch to five inches in diameter. The head of the pancreas was also involved by similar nodes. Mesenteric glands greatly enlarged and noded. Kidneys invaded by a number of small nodules, scattered throughout the capsules as well as the parenchyma of the organs.

Stomach, intestines, rectum, and rest of organs normal.

Microscopic examination by Dr. H. F. Formad determined the structure of the new growth of the liver, of the brain, and of the other organs to be that of a *cylindrical* epithelioma, the primary growth having developed in the liver.

Dr. FORMAD added that the new growth, of the brain especially, showed typically the peculiar cones built up of cylindrical epithelium piercing through a vascular connective tissue in every direction; that at the same time, however, it demonstrated in places well the direct transformation of a cylindrical epithelioma into a simple glandular carcinoma, as described first by Perls, the solid cones of the epithelioma breaking up; and the cylindrical epithelial cells are distinctly seen *transforming* into spheroidal cells, which fill, loosely packed, the alveolar spaces.

Tuberculous growths (tyroma) of cerebellum.

Exhibited by Dr. H. F. FORMAD.

This specimen and some notes of the history I obtained through the kindness of Dr. E. R. Girvin, who will present the interesting history of the case in full to the County Medical Society.

Miss G., aged 21, was never confined to bed with any sickness prior to the malady which terminated fatally. She complained, however, of occasional headache during the last eleven years, which she always located at the occipital region. She received an injury eleven years ago by a fall from a swing, striking this region of the head upon a projecting board, the accident being followed by loss of consciousness, which lasted, however, only a few minutes. With the exception of the periodical localized headache, which started from the time of the injury, she remained perfectly well.

In February, 1880, the paroxysmal headache became of more grave nature, the attacks developed in frequency to one every five or six days, each attack lasting three to four days, the pain radiating over the entire top of the cerebrum and attended with great hyperæsthesia. The skin cool; pulse compressible, thready, and irregular, ranging from 70 to 100. During April, May, and June the patient improved, but subsequently the attacks recurred with increased severity, and were followed by difficulty in vision,—viz., double sight. Examination by Prof. W. F. Norris revealed choked disks affecting both eyes. Later, complete blindness ensued. There was a slight loss of power of left side of body, and sometimes twitching of the muscles of left side of face was noticed, and staggering gait. She complained sometimes of a momentary swinging or rotary sensation. The intellect was clear and the memory not impaired. During August and September the condition of the patient again improved. September 27 the attack suddenly became more severe, and, growing in intensity, terminated by death on October 1. During the last few days of life there was loss of power of deglutition, also of sense of smell, taste, and hearing; general sensibility and clearness of mental faculty were perfect up to death.

A complete autopsy was objected to. I examined only the brain, with the following result:

Skull normal. Dura mater normal, except over the left side of the cerebellum, where it was thickened and adherent to the bone. Pia mater opaque, slightly thickened, and showing evidence of previous strong congestions and repeated effusions.

Examining the cerebellum by section, there were seen a number of yellowish-gray nodes

of a new growth, varying in size from one-fourth to three-fourths of an inch in diameter, located both in the gray and white matter of the left side and at the middle of the cerebellum, in close proximity with, but not involving, the pia mater. The left side of the cerebellum was also thicker than the right. Over the seat of the tumefaction was a distinct localized septomeningitis, and adhesions between the membranes.

The cerebrum was very anæmic, otherwise of perfectly normal appearance in all parts. An increased quantity of fluid was noticed in the lateral ventricles.

Microscopic examination.—Nothing abnormal in cerebrum; the pia mater showed, however, numerous tubercle granulations in the course of the blood-vessels. Examination of new growth of the cerebellum proved it to be of a tuberculous nature, showing the structure of a non-vascular granulation tissue containing numerous nodules, some of which were undergoing cheesy degeneration. Transverse sections of obliterated blood-vessels, and also true giant cells, were conspicuous. The granulations of the periphery of the nodes show a distinct attempt at fibrillation,—the formation of a capsule. The location also of the new growth of such structural elements leaves the diagnosis of *tyroma* beyond doubt, excluding two other possible new formations, the gumma and glioma.

The direct etiological relation of the new growth to the injury received eleven years prior to death is here highly probable, and hence in favor of the theory of inflammatory origin of tumors.

Cancer of stomach. Presented by Dr. J. H. MUSSER.

The patient whose stomach I present for your examination applied to me for treatment the 11th of March of the present year. From him I gleaned the following history.

H. O., æt. 55; butcher; moderate drinker, excessive smoker; has been a hard worker; unfortunate in business, and, of late years, in poor circumstances; has had considerable mental strain; always healthy until present illness; no venereal diseases; family history good; wife died of cancer of the stomach eight months ago.

Present illness was of six months' duration. Increasing languor, debility, and emaciation, dyspnœa on exertion, continual yawning, sleeplessness, and loss of memory, have been noticeable symptoms. What most distressed him, however, was a weight and fulness after meals in the stomach, with flatulence, lasting two or three hours, and only being relieved by forced vomiting; thirst has been very great; constipation persistent and increasing.

His condition when examined was as follows. Large, heavily framed; very much emaciated, having lost seventy pounds; countenance did not indicate suffering from pain but from mental torture; face emaciated; eyes sunken; conjunctiva pale; sclerotic dead-white; lips pale; complexion dirty-yellow; extremities cold; voice weak; speech slow; sighs considerably; mind is sluggish; memory poor; heart and lungs normal; pulse 90, feeble; tongue large, pale, flabby, heavily coated; teeth poor; throat dry, slight pharyngitis; appetite fair; thirst great; after eating, weight and fulness in the stomach; great flatulence; never vomits involuntarily; when he provokes vomiting the matters ejected are the contents of the stomach and greenish fluid, never blood; bowels very costive.

Inspection of abdomen reveals a pulsation between the xiphoid cartilage and the umbilicus, and a distinct prominence to the right of the median line above the umbilicus. *Palpation* defines the bulging to be two and a half inches above the umbilicus, a little to the right of the median line, and extending within one-half inch of the ribs. *Percussion* does not define any resonance between the normal dulness of the liver's margin and the mass. No pain on pressure, and no increase of local heat; no murmur on auscultation. Liver and spleen normal size; urine not examined.

May 1.—Learned from one of his family that he had emaciated very much and become much debilitated.

May 24.—Called to him again, and found him extremely emaciated. Abdomen very scaphoid. Pulsation very visible. Mass observed two inches above umbilicus, between the median line and the ribs. Percussion defines the tumor in that area, extending three inches along the ribs. The size of the mass is greater than when first examined, or the scaphoid state of the abdomen causes it to be more readily outlined. No tenderness on pressure. Paroxysmal pain of a burning or sharp, shooting character. Almost constant vomiting. Matters vomited are the food and an acid, white liquid, burning the fauces and mouth. At times, however, free from vomiting, so that to relieve the distressing sense of fulness he has to provoke it. Tongue large, pale, flabby, coated; pulse 96; bowels constipated. Skin itchy, dry, with a general pustular eruption on it. No sleep; very restless.

May 26.—A powder, given every three hours, containing morph. sulph., gr. $\frac{1}{12}$, sodæ bicarb., lactopeptine, āā gr. ij, pulv. aromat., gr. $\frac{1}{12}$, prescribed on the 24th, gave relief to the pain, stopped the vomiting, caused sleep, and permitted the more liberal use of milk.

The symptoms were all better, though he took scarcely any nourishment, and on the 31st of the month he died of exhaustion.

Post-mortem (twenty-four hours after death).—Body extremely emaciated; abdomen concave; skin of same color as before death, very rough; rigor mortis well marked.

Abdominal cavity alone examined. Tissues bloodless on section; organs in normal position; no ascites.

Stomach very much dilated; vessels con-

gested, both arteries and veins, especially near the pylorus. It contained a dark-gray liquid; no blood. At the cardiac end of the stomach the mucous membrane was very pale, becoming more congested towards the pylorus, with swelling and softening of the mucous membrane and some thickening of the walls towards the pylorus. At the pylorus the walls were much thickened, from one-half to three-fourths of an inch, and projected into the stomach as a shelf. The walls of the duodenum were involved to the extent of two and a half inches from the pylorus. They were infiltrated by a dense, firm mass of tissue, softer an inch from the pylorus than at the pylorus. At some points the thickening was greater, giving the appearance of nodules. Neither the pyloric orifice nor the intestine was occluded, both admitting one finger. I neglected to state that the congested portion of the mucous membrane was bathed with mucus. The mesenteric glands were enlarged.

The *liver* was slightly fatty; weighed two pounds fifteen ounces. The other abdominal organs were natural to a person dying of chronic disease. The pancreas was normal, situated back of the mass, and removed with it.

Remarks.—At the time of the first examination cancer was diagnosed and an unfavorable prognosis given. I was not called in again until shortly before death; hence the absence of notes in the interval. The symptoms and course were characteristic of cancer of the stomach, and the autopsy confirmed the opinion. The microscopical appearances of the tumor are those of a scirrhus, with a few spots of degeneration.

Cirrhosis of the liver and kidneys—Liver deformed—Death from softening of the brain.

Presented by Dr. J. W. MUSSER.

I visited the patient from whom the specimens before you were taken the first time on the 8th of October, 1879. Her condition at that time and the subsequent course of the disease are embodied in the following notes:

Mrs. H., æt. 57, born in Ireland, a resident of Philadelphia, for the past two years living in an intensely malarial district near the Schuylkill. Different members of the family have had malaria the past three months. Married. Eleven children; six living and healthy; the others died of acute disease in early childhood or youth. Circumstances and comforts of life quite moderate. Considerable mental worry from the cares of a large family and on account of husband's intemperance. Habits good.

Father died of "jaundice." Cause of mother's death unknown. A sister died of consumption. No further evidence of hereditary disease.

Always healthy, save an attack of ague twenty years ago, and, for several years, frequent attacks of "biliousness." These attacks were characterized by anorexia, nausea, and vomiting of a yellow-and-green matter, with or without diarrhœa. No syphilis.

For six months patient has suffered from poor appetite, bad taste in the mouth, flatulency and acidity, and irregular bowels. The past three weeks has been quite miserable, being without appetite and very weak. Cramp-like pains, coldness and heaviness of the lower limbs have troubled her for a week, while for two days she has been vomiting.

At present (October 8) she is quite weak, somewhat emaciated; extremities cold; skin of trunk warm and harsh, of a dark, muddy color; face of same color, with injected capillaries of the cheek; conjunctiva yellowish; heart normal; pulse 130, weak; lungs normal; breathing hurried, thirty to the minute. The hurried pulse and respirations are due to the exhaustion from vomiting. Nausea is constant; vomiting occurs every half-hour. The matter vomited is a yellowish, sour liquid, with flakes of mucus in it; no blood. Sourness over stomach, but no pain.

Inspection of abdomen reveals a slight general enlargement, with localized bulging in the right hypochondrium. No enlarged veins. On palpation, it is found that a smooth, hard tumor occupies the following area: Extending from the outer border of the right rectus muscle to the axillary line. The lower margin is, at the outer border of the right rectus, one inch above a horizontal line through the umbilicus from left to right. In the nipple-line it extends to the line, in the axillary region to an inch above the crest of the ilium. No pain attends its handling. The upper boundary of the liver begins at the fifth rib on deep, in the sixth interspace on superficial, percussion. From thence dulness extends to the margin defined by palpation, being continuous with the tumor-dulness. The left hepatic lobe is not enlarged. Normal liver-dulness not increased posteriorly. With inspiration and expiration the entire mass moves, so that it is, with the evidence of percussion, connected with the liver. Spleen is not enlarged. Bowels are costive.

Appropriate diet and sedatives soon allayed the gastric symptoms, and in three days she was ordered cinchona, strychnia, and muriatic acid, and a regulated diet.

About three weeks afterwards her urine burned her very much when passed. It was found to be of an acid reaction, a dark-red color, without albumen or sugar, containing urates and bile-pigment.

In November she had a sudden, profuse, painless uterine hemorrhage. Her menses had ceased years ago. This was the only hemorrhage throughout her illness.

I saw her again December 11. She had emaciated somewhat. She was very weak. Her eyes were jaundiced, the capillaries of the face congested, and the skin of the face dark or bronzed, as previously noted. She had some slight fever, and a pulse of 110.

Her appetite was poor, tongue coated brownish, red and glazed at the edges, thirst great, bowels regular. Would not allow an abdominal examination. Suffers from pain in the loins. Urine is scanty. A dry, hacking cough annoys her very much. At times a dark-yellow expectoration. No physical signs of bronchitis. Slight œdema of feet.

12th.—Œdema subsided somewhat. Nausea and vomiting all night. Vomited matter at first like the yolk of an egg, later a watery fluid with flashes of green-tinged mucus floating in it and green masses at the bottom of the vessel.

13th.—Vomiting better. No fever. Pulse 100. Liver as before noted; descends three inches, and is pushed to left by the ilium. No œdema. Colic and diarrhœa last night. Much stronger. Urged continuance of the previously ordered acid tonic.

23d.—Another gastric attack, as previously.

January 16, 1880.—Noted as follows: Been visiting her every week, and find mind gradually failing. Wanders readily from a subject, talks of unreal occurrences, and of nonsensical matters. No memory. Sleeps poorly. Slight headache. Urine scanty, very red; specific gravity 1020; slight albumen. No jaundice. Considerable tympanitis.

21st.—Urine high-colored, acid; slight amount of albumen; no sugar; bile-salts and pigment. Microscopically, bladder-epithelium, pus, uric acid, and an abundance of phosphates. Growing weaker and weaker. Dry, brown tongue; slight gastric pain; no vomiting; regular bowels; slight ascites; no headache. Poor sleep; wandering delirium; refers to imaginary occurrences. Is continually enacting the movement of winding a spool of thread.

31st.—Peritoneal fluid increased. Pain in abdomen. Temperature not elevated. Pulse 120. "Some smothering about the heart." Mind less composed than before. Urine scanty.

February 2, 1880.—Urine scanty; eight ounces passed in twenty-four hours; high-colored. Microscopically, red blood-cells in abundance, a few white cells, epithelium from kidneys, ureters, bladder, and vagina; a few crystals of oxalate of lime. Urates, phosphates, and tube-casts absent; bile-pigment in abundance. Chemically, bile, one-sixteenth albumen; no sugar.

5th.—Ascites increased. Tongue flabby, red, and fissured. Vomited once,—bile. Bowels regular, fæces dark-colored. Pulse 120. No œdema of feet. Feeble; more stupid. Recognizes with difficulty, and comprehends poorly. At apex of heart a "murmurish" sound.

March 2.—Vomiting a dirty-yellowish, offensive, copious matter. Diarrhœa past two days; stools thin, clayey, offensive. Urine passed involuntarily. Is semi-conscious; aroused with difficulty, and murmurs unintelligibly. Lies on right side, with the knees and legs drawn up and head bent to the chest; lack of co-ordination in movements for a week. Past three weeks face has had the appearance of dementia, as in cerebral softening; not the cirrhotic countenance.

12th.—Pulse 100, moderately strong, regular; respiration 32, short. Twitching of the muscles of limbs. Can be aroused. Some hyperæsthesia; slight fever. Does not take food; urine and fæces passed involuntarily.

Became more and more unconscious, and died on the 13th in coma.

Autopsy.—Examined twenty-four hours after death, Dr. W. E. Hughes assisting.

Rigor mortis not well marked; body not extremely emaciated; skin dark, dirty color; no anasarca or jaundice.

Abdominal walls one and a half inches thick; fat moderately abundant. Cavity of abdomen almost filled with a clear, light straw-colored fluid; no flakes of lymph, and no adhesions; no congestion of the visceral or parietal peritoneum. Liver not displaced, occupied the position defined during life; other organs in normal position. The liver was not nodular, but its surface was granular, and on section it was dense and firm, granular with increase of connective tissue. A slight indentation marked this. The right lobe measured five inches from right to left, the left three inches. From above downwards the right lobe measured seven and a half inches, the left three inches. The right lobe was two and a quarter inches thick, the left two inches. It weighed two pounds two and a half ounces. Spleen normal in size, dense. Kidneys enlarged, congested, weighed ten ounces each; capsule easily removed; proportion between cortical and medullary portion normal. Mucous membrane of stomach and intestines pale.

Heart, left ventricle contracted; mitral valve slightly thickened. Lungs slightly œdematous. Brain not examined.

Fluid of peritoneum contained albumen, sugar, and urea. Kidneys, microscopically, were congested, and in early stages of cirrhosis. Liver markedly cirrhotic.

Remarks.—The cause of the enlargement only of the right lobe of the liver, and only of the anterior portion, at first puzzled me. It could not be a hydatid, or a purulent or serous collection between the liver and diaphragm pushing the organ down, for the lungs were not encroached upon, nor were there any other confirming symptoms of such conditions, as fluctuation or fever. There were no symptoms or signs of disease of surrounding organs, as the kidneys, to cause a dislocation of the liver. Hydatids, abscess, and cancer were excluded, from absence of symptoms peculiar to each, although the indefinite cause of the father's death made me consider cancer carefully. The knowledge of the patient's habit of tippling, which I learned after her death, would have confirmed my suspicion of

cirrhosis. Before the symptoms of the second stage of cirrhosis developed it was only suspected; for in the first stage the liver is enlarged uniformly; this was of one lobe. The symptoms of the second stage confirmed my suspicion, although there was no contraction.

The commencing Bright's disease was aggravated by the ascites, no doubt. The amount of fluid was never so great as to interfere with respiration or cardiac action. The state of the mind forbade tapping.

The cause of death was undoubtedly softening of the brain. The renal complication was not sufficiently grave to cause uræmia. The cirrhotic cachexia was not sufficiently developed to produce the cerebral symptoms of the later stage of cirrhosis.

PHILADELPHIA ACADEMY OF SURGERY.

MEETING OF DECEMBER 6, 1880.

The President, DR. S. D. GROSS, in the Chair.

CASES OF CLUB-FOOT.

DR. T. G. MORTON exhibited some cases of club-foot in which treatment had been instituted soon after birth. The method of treatment consisted in manipulation and the wearing of proper shoes, without tenotomy. The cases had resulted very satisfactorily, and were presented in illustration of the remarks made by Dr. Morton at previous meetings of the Academy.

Dr. S. D. Gross remarked that tenotomy for the cure of talipes was apparently harmless and gave good results, and, although death might occur in exceptional cases on account of improper after-treatment, it certainly was a termination that was never to be expected.

Dr. Morton had once seen erysipelas and deep abscess follow tenotomy, but this is very unusual. The trouble that occurred in such cases was due, as a rule, to the neglect of proper after-treatment on the part of the parents. Hence, in cases seen in infancy he attempted, and usually was able, to cure the talipes without tenotomy, except in some instances of equinus, when he was obliged to divide the tendo Achillis. This he did when the child began to walk.

Dr. S. W. Gross thought the ordinary method of operating useless, and the usual method of applying the shoe a barbarity: still, he believed that division of the tendo Achillis was preferable, because it hastened cure. The varus should be overcome by manipulation first, and the heel then brought down. After manipulation has been begun, the foot may be kept in place by adhesive plaster carried around the foot and up the leg.

Dr. D. Hayes Agnew knew of death occurring after division of the soleus in the calf, probably on account of the posterior tibial artery having been divided. In his opinion, no operation is wise at an earlier age than one year, but in the mean time it is well to correct deformity and develop the paralyzed muscles by manipulation.

Dr. De F. Willard considered it hardly proper to disrupt at an early age, because inflammation might occur, and manipulation continued through a series of weeks would accomplish the same purpose.

POSTURAL TREATMENT OF FRACTURE OF THE CLAVICLE.

Dr. R. J. Levis presented the last three cases of fracture of the clavicle that had been under his care in the Pennsylvania Hospital, in order to demonstrate the superiority of the postural method of treatment. The cases admitted are usually liable to great displacement, on account of the muscular development of the patients, but by this manner of managing the fracture union is obtained with so little deformity that the seat of fracture is often difficult of detection. The patient, on admission, is placed in bed in the supine position, with a pad under the inferior angle of the scapula to fix it and make it a lever; and then, by slightly elevating the head, to relax the sterno-mastoid, and carrying the arm of the injured side across the chest, accurate apposition of the fragments is usually obtained. If it is found necessary to carry the outer fragment more strongly backwards, a bag of shot or sand is laid upon the point of the shoulder. If this line of treatment is adopted for ten days, sufficient fixedness and solidity are obtained to permit the subsequent management of the fracture to be conducted with the patient in the erect position without any special apparatus. The cessation of muscular irritability and the partial union by soft callus render displacement improbable after this lapse of time, and an ordinary sling to support the arm is sufficient. This manner of dealing with fractured clavicle was recommended by Hartshorne, and seems to yield excellent results.

Dr. John H. Packard remarked that when the clavicle is broken the serratus magnus muscle drags the scapula forward, and it is because the method described prevents this action that the good results ascribed to it are obtained. When the clavicle is intact, the scapular and clavicular movements take place around the sterno-clavicular articulation.

Dr. T. G. Morton had seen Dr. Edward Hartshorne employ this method in the Pennsylvania Hospital many years ago. He placed a pad on the inferior angle of the scapula and another on the point of the shoulder to draw the acromial end of the clavicle outwards.

Dr. A. Hewson, on looking at the patients, who still wore the retentive bandages, expressed his opinion that the shoulder of the

affected side was lower than the sound one in each of the three cases presented for examination.

Dr. Levis stated that this was only apparent, and due to want of similarity in the posture of the two arms.

TRIPLE CYST OF NECK CURED BY INCISION AND DRAINAGE.

Dr. T. G. Morton presented a patient who had been treated for a cystic tumor of the neck. It had existed about four years, and was incised with a bistoury on October 23, 1880, when it was found to consist of three distinct cysts. Thick serous fluid, of a specific gravity of 1024, was evacuated, and a drainage-tube inserted. In five or six days the tube was removed, but subsequently the tumor became tense, respiration difficult, and the temperature reached 103°. Two openings were made with a trocar, and fxxʒiv of purulent fluid allowed to escape. After some difficulty in restraining superficial bleeding, caused by the trocar dividing a vessel, drainage was instituted and carbolized dressings applied. From this time the man continued to improve, and recovered without further trouble.

CYSTIC BRONCHOCELE CURED BY TAPPING AND DRAINAGE.

Dr. Morton also exhibited a woman with cystic bronchocele, who had been successfully treated by tapping and the introduction of a drainage-tube. The cyst had been repeatedly tapped by several operators, but finally suppuration occurred, and, as threatening symptoms were present, he introduced the trocar and treated by drainage. There was now scarcely any tumor to be found, on examination.

IMPROVED PATELLA-HOOKS.

Dr. R. J. Levis showed a recent improvement of his separated patella-hooks, which consisted in substituting for the long screw an ordinary thumb-screw to clamp the two hooks together after the fragments had been drawn into close apposition by them.

A SUBSTITUTE FOR HUTCHISON'S METHOD OF TREATING COXALGIA.

Dr. Levis also presented a patient under treatment for coxalgia, where extension was obtained by flexing the knee, encasing it in a silicate-of-sodium bandage, and allowing the man to walk with crutches. The flexion prevented the foot from touching the ground, and the weight of the limb kept up extension. At night the laced silicate splint was removed and weight-extension applied. This was merely a modification of Hutchison's plan, in which the sole of the shoe of the sound limb is thickened in order that the diseased limb may swing clear of the ground and give extension by its own weight when the patient walks with crutches. The method shown seemed to avoid the awkward elevation on the sound side. Weights could be attached to the flexed knee if more powerful extension was desirable.

CONGENITAL DISLOCATION OF BOTH CRYSTALLINE LENSES (ECTOPIA LENTIS).

Dr. John B. Roberts presented this case, with the following history:

I am told that this boy, aged 12 years, has had defective vision from infancy, though he has learned to read by going to school. Inspection at his first visit showed me at once some divergence of the axis of the left eye; and, after dilatation of the pupils with atropia, the cause of his imperfect vision was apparent. Both lenses were seen, by oblique illumination, to occupy the upper and inner portion of the circular aperture of the dilated pupils, and appeared as pearly disks, without movement, attached in this abnormal position. The iris of each eye was tremulous at its outer and inferior segment, on account of its being unsupported by the lens and its ligament at that point. When examination with the ophthalmoscope was made, the periphery of the lens appeared as a black ring,—very much as an air-bubble under the glass cover of a slide looks through the microscope. The fundus could be seen through the lens, but I found it difficult to make out the vessels distinctly: it seemed as though there was haziness of the lenticular substance. Alongside of the lens the fundus could be examined without difficulty by using a +4 lens with the direct examination. The disks seemed pale, but the movement of the eyes, and the necessity of looking through the pupil but not through the lens, made accurate study of the fundus tedious. His vision in the left eye (the strabismic one) was limited to mere perception of light,—or, at least, he was unable to count fingers held before him. The retina seemed entirely amblyopic, for no marked change was seen with the ophthalmoscope. The right eye had an acuity of vision amounting only to $\frac{2}{C}$.

I determined to test him with cataract-glasses, since the eyes, as regarded the visual axes, were evidently in the condition of aphakia. With the left eye nothing was to be done, but with +4½ focal (about 8.50 D) I was enabled to give the right eye vision amounting to $\frac{6}{LXX}$. For reading, +3 focal seemed the best glass, but even then his vision was limited to moderately large print held close to his eye; indeed, he was able to read almost as well without glasses by holding the page within an inch or two of his face and in an oblique direction. He then probably got the rays to pass through the displaced lens. The lens for distance was prescribed when he was first seen.

One month later he returned delighted with

his spectacles, and said he could distinguish the Camden ferry-boats across the river. Examination showed his vision to have increased to $\frac{12}{LXX}$,—twice as much as he saw when spectacles were ordered, at which time, however, the eyes were under the mydriatic effect of atropia.

This is a case of congenital displacement of the lens similar to those usually seen, for the condition is generally double, and the lenses usually occupy the upper and nasal section of the posterior chamber. There is often a hereditary tendency to ectopia lentis, but I do not know that any one of this boy's family has had a similar malformation. The eyes are said to be myopic, as a rule, and we would rather expect them to be imperfectly developed.

No operation would be justifiable in this case, for the left eye is amblyopic, and the right is too useful, now that he wears spectacles, to risk its loss by endeavoring to extract the displaced lens. Abnormally-developed eyes are not apt to bear operations well; and destructive inflammation might follow the performance of extraction.

GUNSHOT WOUND OF KNEE-JOINT AND POPLITEAL VEIN FOLLOWED BY PYÆMIA.

Dr. R. J. Levis exhibited a specimen from a case in which death had occurred from pyæmia due to wound of the popliteal vein. A pistol-ball had entered at the inner side of the ligament of the patella, and, passing through the head of the tibia and obliquely downwards and backwards, had lodged just beneath the integument in the middle of the calf, where it could be easily felt, and was removed by incision. The ball was of large size, weighing one hundred and twenty grains. The patient, a woman, was first seen October 31, 1880. The limb was placed in a fracture-box, and carbolized irrigation applied to the knee. She had with her an infant at the breast, about which she fretted a great deal.

November 3.—Her condition was good up to to-day, when she had a slight rigor. Foot is much swollen and dark. Ordered quinine and iron.

5th.—Irrigation discontinued. General phlebitis was evident, and the leg up to the middle of the thigh was of a dark bluish tinge, while fluctuation of pus in the connective tissue was distinct. Free incisions were made, and a large quantity of pus discharged. Leg placed in fracture-box, in bran dressing.

6th.—Entire limb much swollen and black. Died in the evening.

Autopsy showed metastatic abscesses in the liver, kidney, and spleen, and the lungs were filled with infarctions. Decomposition had set in unusually early. The autopsy showed, moreover, that the ball had traversed the popliteal vein. Phlebitis had commenced at the wound in the vein, the open calibre of which was exposed to the reception of the septic products of inflammation of the surrounding structures.

JOHN B. ROBERTS,
Recorder.

REVIEWS AND BOOK NOTICES.

PHYSIOLOGICAL CHEMISTRY. A Text-Book of the Physiological Chemistry of the Animal Body, including an Account of the Chemical Changes occurring in Disease. By ARTHUR GAMGEE, M.D., F.R.S. Vol. i. London, Macmillan & Co.

We have here the first volume of what is destined to be the most complete work in the English language upon this subject so important to the student of medicine. In the present volume the chemical composition of and the chemical processes relating to the elementary tissues of the body are treated of, the blood, lymph, and chyle being included in that classification. This volume forms a complete and independent work; though it is intended that it shall, within twelve months, be followed by a second volume, in which the chemistry of the chief animal functions will be treated of.

The first chapter, on the "Proteids," is especially valuable, as we have here a satisfactory statement of these compounds so complex and concerning which so little is generally known. On page 16 is a synopsis of the chief proteid bodies, classified according to their most characteristic reactions. About two hundred pages are devoted to blood alone, and of this the parts are first described in detail, then the changes which the blood undergoes in disease discussed, and finally a very full description of the several methods of research involved in a thorough chemical study of the blood under all possible conditions. The completeness of this section may be judged when we mention that it includes an account of the absorption spectra of the blood and the method of observing them and mapping the results, forms of apparatus, too, being given in detail; methods for the quantitative analysis of all the constituents of the blood, both normal and abnormal; the methods of gas-analysis in connection with the analysis of the gases of the blood; and the medico-legal detection of blood-stains and of carbonic oxide in the blood.

On page 406 and the following pages is a most valuable historical sketch of the theories of muscular action from the time of Mayow to that of Liebig and Mayer, and a lucid statement of Hermann's theories, which are the present resting-point of the controversy.

On page 426 is an interesting statement of the chemical dispute as to the existence of protagon, the crystallized brain-principle, and, following this, an account of the decomposition products of lecithin and protagon.

The book gives us most valuable summaries of the present state of discussion among investigators as to important points yet in debate. In addition to the examples just given above, we may be allowed to instance the very interesting account on page 461 and following pages of Kühne's researches upon the "visual purple" of the retina.

The book is well printed and bound, and will, we know, be appreciated. The second volume, if carried through in a similar manner, will make the combined work one indispensable to the student of physiology. S.

HAND-BOOK OF CHEMICAL PHYSIOLOGY AND PATHOLOGY, WITH LECTURES UPON NORMAL AND ABNORMAL URINE. By VICTOR C. VAUGHAN, M.D., Ph.D. Ann Arbor, 1880.

It is essential, in examining this book and passing upon its merits, to remember that it is made up, as indicated by the title, of two distinct parts, and is not a continuous whole. The first part takes up especially the secretions and the more important tissues, and describes the chemical constituents of each, together with the physiology and pathology of the secretions, or even of the more important individual chemical compounds in each secretion or tissue. The chemical descriptions are clear, and when decompositions are spoken of the chemical reactions are written out in all cases where the change is simple enough to be capable of such expression; the sections upon the pathology of the more important chemical compounds are also quite full, and will no doubt be of value to the practical physician. The methods for the qualitative analysis of the several animal fluids are taken largely from Hoppe-Seyler and Gorup-Besanez, to both of whom the author acknowledges his indebtedness.

The second part of the work, to which the plates bound up at the end of the volume belong, is a series of practical schemes of analysis of urine suitable for class instruction (for which it was originally written) or for the guidance of the practical physician. These are also quite full, and are well written. It is a pity that a book containing so much valuable matter has no table of contents and only a trifling index, so that one has to hunt for its best points. It is, moreover, printed upon rather inferior paper, and the binding is more suggestive of old patent-office reports than of a book designed for constant reference in the medical laboratory. S.

MEDICAL DIAGNOSIS. Fifth Edition, Revised. By J. M. DA COSTA, M.D. Philadelphia. J. B. Lippincott & Co., 1881.

In this edition the chief changes are in those parts which treat of diseases of the nervous system and of the blood. Very careful work in these portions has resulted in rendering the chapters very satisfactory, and really enhancing the value of the book. We have only one point to call attention to,—pernicious anæmia. Is it really different from pseudo-leukæmia? It seems to us proven that there are three forms of leukæmia and three forms also of pseudo-leukæmia, viz., splenic, lymphatic, and myelogenic; and we can see no diagnostic difference between acute pernicious anæmias and myelogenic pseudo-leukæmias. Dr. Da Costa's work surely does not in any way clear up the deficiencies. We are glad to learn that a translation of the book into German is being published by Hirschwald. American medical literature in the practical branches bids fair to lead the world: will not some rich man help to maintain scientific pre-eminence by endowing laboratories and professorships so as to enable Americans to work in science?

A TREATISE ON THE PRINCIPLES AND PRACTICE OF MEDICINE. By AUSTIN FLINT, M.D. Fifth Edition, Revised and Largely Rewritten.

The fourth edition of this book was published in 1873, and in the rapid progress of events had fallen behind the science and art which it represents. After careful examination, we find that these deficiencies have been made up, and that in some directions the work in its augmented size more nearly represents the world's knowledge than it ever did. Seven chapters, concerning the general pathology of the solid tissues and of the blood, have been added by Dr. William H. Welch, and are very good. On the whole, the work now seems to us distinctly the best of its kind written by an American, and at least equalling anything in the language. It hardly equals in its thorough satisfactoriness, to our thinking, the great work of Jaccoud, but we have never used any German rival in all respects equalling it. Even Niemeyer is less desirable. When, however, a certain point of excellence is reached, individual opinion is so modified by idiosyncrasies that each man judges by his own needs and fancies, and some may prefer the present volume above all others.

PRACTICAL HISTOLOGY AND PATHOLOGY. By HENEAGE GIBBES, M.B.

The object of this little volume, as stated in the preface, is to lay before the practitioner and student of medicine a few concise and simple methods by which the various tissues of the body may be prepared for examination with the microscope. This object is well accomplished, as the work constitutes a clear and well-written introduction to the technology of the subject. It forms a good guide for beginners, besides containing much matter of interest to more experienced workers. Especially is this last the case in the chapters on staining and double-staining, in which quite a complete account of the action, durability, and practical value of the various sub-

stances used is given, the account including most of the more recent dyes. On the whole, our impressions are decidedly in favor of the book. F. D.

A Manual of the Practice of Medicine and Surgery. By Thomas Bryant, F.R.C.S. Third American from the Third London Edition. By John B. Roberts, A.M., M.D.

We are happy to announce this new edition of the well-known work of Mr. Bryant. From the preface we learn that much of it has been rewritten and eighty-eight new wood-cuts added. Dr. Roberts has also made various additions, chiefly in regard to the work of American surgeons.

GLEANINGS FROM EXCHANGES.

Nephrectomy by Lumbar Section.—At a recent meeting of the Hunterian Society Mr. John Couper exhibited a girl from whom last April he had removed the right kidney, which had been converted into a large cyst filled with pus. The patient's illness had begun in 1879, with pain in the right loin, and loss of flesh and strength. She could not lie on the right side without discomfort. On examination, after her admission to hospital on April 17, the following conditions were noted. The abdomen was not over-distended. A more or less solid mass occupied the right iliac and lumbar regions. There was slight visible fulness to the right of and below the umbilicus, but no marked swelling. The liver dulness commenced at the lower border of the sixth rib in front, and extended nearly to the crest of the ilium. On grasping the loins posteriorly there was pain on the right side only. The inguinal glands were not enlarged. There was slight pitting of the legs anteriorly on pressure. Urine was passed from three to four times daily, and contained about one-third of its volume of pus. By an examination under ether it was found that the ascending colon lay in front of the tumor, that deep-seated fluctuation was present in the latter, that its inner edge reached the middle line, its lower edge to one inch above Poupart's ligament, and its upper edge three-quarters of an inch below the margin of the ribs. The tumor did not extend into the pelvis, was movable, and could be tilted from hand to hand. It did not change position on deep inspiration, and was not connected with the liver. There were no symptoms of cystitis; urine acid. Vagina and uterus healthy. The tumor was obviously the right kidney distended with pus. The chronic character of the symptoms, the absence of any tendency to point, and the presence of pus in a healthy bladder, were all against the diagnosis of perinephritic abscess. As regards the prospect of successful nephrectomy, evidence as to the condition of the other kidney was of vital importance, and here it was noted, 1st, that there had been no vomiting, as if both kidneys were diseased; 2d, that the urine was normal both as to quantity and the percentage of solids contained in it, thus proving that there was no renal insufficiency; 3d, that the amount of albumen present was very small; and, lastly, that the size of the tumor was incompatible with the persistence of any trace of normal secreting structure. The morning temperature was generally normal, and it rarely rose to 102° in the evening. The thoracic organs were healthy, and all these conditions constituted a case exceptionally favorable for nephrectomy, should that operation prove to be necessary. On April 24 the exploratory incision in the right loin was made with the customary precautions against sepsis, the patient being etherized. The section was horizontal, and precisely in the position of that practised in lumbar colotomy. After division of the fascia lumborum, a smooth fluctuating swelling was exposed on the outer border of the quadratus. A trocar plunged into this gave vent to a dark-colored foul-smelling pus in large quantity. Enlarging the opening thus made, and removing the trocar, Mr. Couper passed his forefinger into a loculated sac, obviously the disorganized and dilated kidney. Now arose the question, should this sac simply be drained and allowed to close by granulation, or should it be dissected out? The branching form of the cavity, its enormous extent, and the thick resistant condition of the walls, must have rendered closure by granulation tedious and uncertain. The removal of the kidney was accordingly undertaken. The adhesions of the peritoneum in front were very close, and its separation from the tumor was not effected without a hole being made into the peritoneal cavity. Before this hole could be closed by suture, pus from the kidney contaminated the inner surface of the peritoneum. The ureter was soon reached, tied with strong catgut, and divided. An artery of moderate size below the hilum was ligatured and divided. The main vessels were then tied *en masse* with carbolized silk and divided. The tumor was then quickly detached from its peritoneal connections below the liver and removed. The operation lasted two hours and a quarter, and was throughout all but bloodless. Recovery was uninterrupted. The temperature never reached 102°, and on only three occasions did it exceed 101°. In spite of the fetid character of the pus, the wound did not become septic, and all foul smell was gone in twenty-four hours. For some days after the operation the urine was clouded, and microscopic traces of pus continued to be found in it. These finally disappeared during the third week. The girl left her bed on the thirty-sixth day, and was discharged on the 8th of August. There is still a granulation at the posterior end of the cicatrix, but the girl is rosy and in good health.

Poisoning by Paraffin (Kerosene?).—Mr. Horace Elliott (*Lancet*, vol. ii., 1880, p. 730) reports the case of a child, two years of age, who drank some paraffin. The child was seen about twenty minutes afterwards, and was found to be in a state of semi-collapse, being very pale; the surface of the body was cold and clammy; the pulse small and feeble; the pupils were widely dilated, but acted slightly to the light from a candle. The breath smelt strongly of paraffin. The little patient was dazed and very drowsy, and could only be kept awake with difficulty. Did not cry. The child had vomited slightly before seen, and again soon afterwards. Emetics were administered, which only acted slightly, the vomited matter smelling very strongly of paraffin. The child was not allowed to go to sleep, and about two hours afterwards it began to rally, the surface of the body becoming warmer and the pulse more frequent; the patient cried; there was no diarrhœa. Next morning the child was quite well, the pupils being normal and the breath smelling slightly of paraffin. "From the above notes," says Mr. Elliott, "it will be seen that the symptoms somewhat resembled those of poisoning by belladonna."

Antiseptic Treatment of Empyema.—At a recent meeting of the Manchester Medical Society (*British Med. Jour.*, vol. ii., 1880, p. 744), Dr. Ashby related three cases of empyema treated antiseptically, two of the patients being shown at the meeting. The ages of the patients were two and a half, five, and seven years respectively; all three had a history of five to seven weeks' illness. The treatment consisted in opening the chest under the spray, after the fashion of Hilton's method of opening abscesses,—*i.e.*, making a free incision through the skin of the ninth intercostal space, just in front of the angle of the rib, and pushing a pair of dressing-forceps through the muscles into the pleural cavity, thus avoiding all chance of wounding the diaphragm. Then about half an inch of the ninth rib was excised by a pair of bone-forceps, and a short drainage-tube inserted. The dressings were renewed daily for the first week, but by the end of the first month the discharge had become scanty, and dressing every third or fourth day was sufficient. In two of the cases the discharge had ceased and the wound healed by the end of two months; and in the third in two months and a half. Three months after the operation all three were well. Only one had any deformity of the chest visible to the eye, and that only a slight flattening. The lungs expanded fairly, if not fully.

Treatment of Whooping-Cough in Gas-Works.—A report by M. Henri Roger on this subject made to the Académie de Médecine (*Lancet*, vol. ii., 1880, p. 705) describes the *modus curandi*. The purifying-chamber at the works is a large room, with doors and windows freely open. Each contains twenty-four vessels, holding five cubic metres of depurating substances,—lime and sulphate of iron mixed with sawdust,—through which the gas has to pass. When the workmen are emptying and refilling one of these vessels, the children with whooping-cough are placed around it, and inhale the vapors which escape. They are in an atmosphere containing ammonium sulphide, carbolic acid, and tarry products. The statements made regarding the efficacy of this treatment are the following. M. Commenge records 169 cases in which the treatment was persevered with. In 20 the treatment failed completely, in 48 improvement was obtained, and 101 were cured. M. Bertholle merely states that of 341 cases 122 were improved and 219 were cured. Failures or deaths were not mentioned. M. Roger points out that these results are too good to be satisfactory. He adds that in his opinion the treatment acts only upon one element of whooping-cough,—the catarrh,—and that it is contra-indicated in febrile attacks of the disease and would be positively dangerous in complicated cases. The method is, however, of easy use in some localities and in summer, and seems worthy of further trial in suitable cases, but it is desirable that its effects should be more exactly noted.

Urethral Irrigator. — Mr. Harrison (*British Med. Jour.*, vol. ii., 1880, p. 745) says, "If I am correct in my assumption that the urethra, at and posterior to the bulb (excluding of course the prostate), is the seat of the chronic inflammation we call gleet, how utterly inert our treatment of it must be by injections, as usually and popularly practised!" Mr. Harrison directs his patient to sit on the edge of a chair, and introduce a soft catheter, to which is attached a hand-ball syringe, the other end of which is placed in a tumbler containing the fluid to be injected. He steadies the catheter in the urethra with his left hand (not squeezing the meatus around it), and slowly compresses the ball of the syringe with his right hand, the vessel containing the fluid to be injected being placed by his right side. In this way the patient continues to use the apparatus until the urethra is completely washed out. The fluid, after it has circulated between the walls of the urethra and the catheter, escapes through the meatus and is received into any convenient receptacle. This irrigation is repeated twice or thrice daily, the fluid most suitable to the purpose being fifteen grains of sulphocarbolate of zinc in half a pint of water.

Hysterical Blindness, with Spasmodic Squint.—Dr. W. Manz (*Brit. Med. Jour.*, October, 1880; from *Cbl. f. Prakt. Augenheilk.*) describes the following case. A nervous young lady, of weak constitution, was suddenly attacked, while the subject of headache, with convergent strabismus, especially of the right eye. At the same time a high degree of amblyopia set in, along with concentric narrow-

ing of the field of vision and spasm of accommodation. Ophthalmoscopic examination revealed nothing beyond a doubtful anomaly of formation, probably due to nerve-fibres with a double contour. The patient had almost completely recovered from the condition above described at the end of eight weeks. While it lasted, clonic convulsions occurred several times. A short time after the patient had been dismissed, a relapse occurred, in which, in addition to the previous symptoms, there was transient anæsthesia of the first and second divisions of the fifth nerve. The relapse disappeared at the end of three weeks, and was after a few days succeeded by a third, which lasted four weeks and left slight impairment of visual acuity with asthenopic troubles.

CHOROIDITIS AS A SEQUEL OF RELAPSING FEVER.—Dr. Julius Trompetter (*British Med. Jour.*, October 30, 1880; from *Klin. Monatsbl. für Augenheilk.*) reports that in three hundred and twenty-five cases of relapsing fever in Breslau, twenty-one cases of choroiditis were observed. They were mostly of the acute form. On admission to hospital, the patients mostly presented the characters of well-marked choroiditis in the form of cyclitis. Very frequently hypopion appeared, in the absence of inflammatory phenomena on the part of the iris. Turbidity of the vitreous humor was ascertained in all the cases, and the visual acuity was always considerably impaired at the commencement of the illness. The field of vision showed a limitation of the periphery in all directions. The course of the choroiditis was in general favorable: its average duration was from a month to six weeks. In two cases both eyes were affected. Dr. Trompetter believes that the affections of the eye in relapsing fever are due to embolism arising from partial necrosis and abscess of the spleen.

DECALCIFIED BONE DRAINAGE-TUBES.—Surgeon Shirley Deakin writes to the *Lancet* (vol. ii., 1880, p. 692) suggesting the decalcified long bones of poultry and small birds as appropriate for drainage-tubes in localities where these cannot conveniently be procured. The bones, well boiled to free them from the soft parts, are soaked for about ten hours in a mixture of one part of hydrochloric acid and two parts of water. Immersed for this time, they become sufficiently soft and flexible for use and to be cut off with ordinary scissors. The ends are now cut off and the medullary cavity cleaned out with a wire. The bone-tubes should then be boiled in a five-per-cent. solution of carbolic acid to which some borax has been added. The tubes are kept in a five-per-cent. solution of carbolic oil.

A SEVERE CASE OF FACIAL NEURALGIA CURED BY A NEW SURGICAL OPERATION.—Dr. Augustus Brown (*British Med. Jour.*, vol. ii., 1880, p. 741), in a case of severe and intractable facial neuralgia, made an incision along the lower border of the jaw and dissected up a flap till he reached the mental foramen. He then ran into the foramen a red-hot steel wire for a quarter of an inch or so, and thoroughly destroyed the nerve. On withdrawing the wire the artery bled considerably, so that he was obliged to plug the foramen. This caused suppuration and some delay in the healing of the wound, which, however, did heal kindly, and the patient from that time has been entirely free from pain and restored to health.

DANGER OF INJECTIONS OF TINCTURE OF IRON IN NÆVUS.—A correspondent of the *British Medical Journal* says, "A child, ten months old, was brought with a small nævus on the right side of its head. I injected five drops of tincture of perchloride of iron with two drops of water. In about a minute the child's face was of a peculiar pea-green color, with black stripes,—the veins. The tip of the syringe had entered a small vein. After four hours' hard work, and with the greatest care, the child's life was saved. Since then I have never used injections for the cure of nævi."

BROMIDROSIS.—Mr. J. W. Martin (*British Med. Jour.*) recommends the following:

℞ Plumbi acetatis, ʒi;
Aceti destillati, fʒj;
Alcoholis, fʒij;
Aquæ ad Oj.—M.

To be used, after washing the feet with soap and water, night and morning.

TREATMENT OF PROLAPSUS ANI BY HYPODERMIC INJECTIONS OF STRYCHNIA.—Dr. Leonard Weber (*New York Medical Record*, 1880, p. 682) inserts the needle about three-fourths of an inch from the anus, and, directing it upward and parallel to the gut, injects one-twenty-fourth to one-twelfth grain of the remedy, repeating the injection in forty-eight hours.

Three cases were thus treated successfully. In one, a man of forty-five, six injections, of one-twelfth of a grain each, were necessary. In a boy four years old, with a prolapse of a year's duration, four injections, of one-twenty-fourth of a grain each, sufficed for a permanent cure. In a girl of six a similar number of injections cured completely.

SECONDARY EPITHELIOMA OF THE LUNG.—At a recent meeting of the Pathological Society, Mr. Goodlee showed one case where there were numerous tumors in the lungs consecutive to epithelioma of the tongue, and a second case where there was an epitheliomatous nodule of the lung consecutive to epithelioma of the bladder. The epitheliomatous nature of the growth was more marked in the latter than in the former case. In this, however, there was typical secondary epithelioma in the kidneys and supra-renal capsules. The President said he had removed a man's tongue for epithelioma. He had remained well for two years, and had then died with secondary epithelioma of the lung.

THE treatment of *acne rosacea*, or "*whisky-*

nose," by electrolysis is advocated by Dr. G. S. Mitchell (*Cincinnati Lancet and Clinic*). He reports seven cases cured, or almost so, by this method. He uses fifteen or twenty cells (galvano-faradic cabinet battery). One or both poles of the battery are armed with needle-electrodes, and these are introduced here and there into the dilated vessels. The needles are not allowed to remain more than half a minute in one place, the treatment lasting about five minutes. From eight to twelve séances were sufficient to cure the patients. The operation is painful, though not so much so as to require an anæsthetic.

JOINT-DISEASE IN LOCOMOTOR ATAXIA.—At a recent meeting of the Pathological Society (*British Med. Jour.*, vol. ii., 1880, p. 743) Dr. Payne showed a man who had suffered from syphilis and now presented well-marked symptoms of locomotor ataxia. He had considerably improved under antisyphilitic treatment, but had recently developed hydrarthrosis in the left knee-joint. Gastric symptoms were absent till a week ago, when he had an attack of vomiting, without obvious cause, bringing up clear fluid. Dr. Buzzard had ascertained from the patient that he had been liable for the last three or four years to attacks of retching and vomiting. He had previously called attention to the frequent association of joint-disease with gastric attacks in locomotor ataxia; and since that time he had seen three cases of joint-disease in ataxic patients, two of whom presented also gastric symptoms. He thought the attacks of nausea and vomiting were of some importance from this point of view.

GELOSITIS WITH SUPPURATION IN A SYPHILITIC INFANT.—Dr. Lees, at the same meeting, showed a hereditarily syphilitic baby in whom the left elbow and right knee-joint had become much enlarged, the child being then six weeks old. Both joints had suppurated and had opened spontaneously. The left knee-joint subsequently suppurated and had been aspirated. The child had recovered under mercurial treatment, with a fair degree of movement in all the joints. Noteworthy points were: 1, the multiplicity of the affection; 2, the early age at which the bone disease had occurred; 3, the good recovery under mercurial treatment.

MISCELLANY.

CENTENARIANS.—Dr. J. C. Taché, a prominent official in the Canadian government, made centenarianism a study at the time of the taking of the Dominion census in 1871, submitting the 82 cases reported by the enumerators to the Abbé Tanguay, who obtained from the parish priests and notaries over 1000 acts of registration. Of these 82 reputed centenarians, no less than 73 were proved to be under five score. Of 31 claiming to be 100 years old, 28 were shown to range from 79 to 99; of 9 persons said to be 101, the oldest was found to be 99; of 9 said to be 102, the oldest was 89; of 4 claiming to be 103, the oldest was 95; of 4 claiming to be 104, the oldest was 99; of 7 claiming to be 105, the oldest was 97; of 3 claiming to be 106, the oldest was 98; of 3 claiming to be 108, the oldest was 95; of 3 claiming to be 110, the oldest was 98; while the old inhabitant of 112 was reduced to 81, the claimant of 112 to 91, and the patriarchal François Torgues's 120 years dwindled to precisely 90. There remained 9 admitted cases: three persons were found to be 100 years old, one was 101, one was 102, and two others were 103, while Rosalie Lizotte's claim to 109 was passed, and to Baptiste Joubert's 105 years 8 were added. Of course there is a presumption against two persons having reached the ages of 109 and 113, when of the other seven admitted centenarians only two lived to be 103, and it is quite possible that there have been errors in the records, such as would have arisen from the death of a child at the age of 6 or 8, and the naming of the next one born after it, when almost inevitably the younger child would be given the elder one's age by a searcher coming a century afterwards. But there is a *primâ facie* case made out, and the fact is well known that the French Canadians are not less remarkable for their vitality than for their fertility. It is to be hoped that General Francis A. Walker may make as rigid inquisition as is possible into the many hundred cases of centenarianism which will surely be recorded in the census reports, or, if this is not possible, will at least publish a list of the cases, and so facilitate the work of independent investigators.—*The American*, 1880, p. 77.

EIGHTY-THREE GRAINS OF OPIUM *vs.* ONE-QUARTER OF A GRAIN OF ATROPIA.—Dr. J. W. Bryant reports, in the *Virginia Medical Monthly*, a case of opium-poisoning successfully treated with gr. ¼ of atropia. The patient, a man, had taken ℥iiss of laudanum on an empty stomach. Two hours passed before anything was done for his relief. Emesis could not be produced, and, as there was no stomach-pump, Dr. Bryant had to rely entirely on atropia. One-fourth of a grain was given hypodermically in four hours in six doses. When it was given, the man had marked symptoms of opium-narcosis,—lightly-contracted pupil, slow and labored respiration, slow and weak pulse. The first perceptible effect of the atropia was after the second dose, when the pupil began to dilate slowly; it was not fully dilated until after the sixth dose. The pulse continued to rise until from 55 it was 125. There was no effect upon the respiratory centres. The galvanic battery was used for a time with no very striking result. At 1 A.M. the patient was left, the physicians not knowing whether he would live or die. Next morning he was awake and con-

scious, but in the condition of a man who had been on a "big spree." Some delirium appeared the next day, but the patient was soon in good condition again. His bowels were not constipated.—*New York Medical Record.*

How the Pennsylvania Hospital impresses Foreigners.—The *Lancet* for October 23 contains an article from a travelling correspondent in Philadelphia, in which he gives his impressions of the Pennsylvania Hospital. He admires the telephonic communication with each member of the staff and the police headquarters. The excellence of ventilation he finds among the most remarkable features of the hospital. The bedstead carriage and Morton's ward dressing-carriage also struck him favorably. He takes exception to the resident physicians' rooms, one medium-sized apartment being scarcely sufficient accommodation, in his opinion, as the common bedroom and sitting-room of two officers. What he would have said to the state of affairs ten years ago, when the resident's room was made to do duty as a consultation- and gossip-room for the staff, and when fixed wash-stands, in direct and untrapped connection with the sewer, poured their miasma into this same apartment, we cannot say. It was a good room to get typhoid in, like that of the landlady in the old verses:

"In this excellent room died three people of fashion."

We fear the resident physician who acted as guide to the English visitor was a wicked University wag; for, says the correspondent, "I was assured that at Jefferson College, which is one of the leading medical schools in this country, a man might take his degree in medicine and go forth and practise his profession *without having ever seen a case.*"

New Remedy for Epilepsy.—Not an over-nice remedy is magpie dust, which no less a personage than the Princess Bismarck apparently deems an infallible specific for epilepsy, since, no longer ago than January of last year the president of the Eckenfoerder Shooting Club addressed the following circular to the members of that association:

"Her Highness Princess Bismarck wishes to receive before the 18th instant as many magpies as possible, from the burned remains of which an anti-epileptic powder may be manipulated. I permit myself, therefore, high- and well-born sir, to entreat that you will forthwith shoot as many magpies as you can in your preserves, and forward the same to the Chief Forester Lange, at Friedrichsruh or hither, without paying for their carriage, down to the 18th of this month."

Vol. ix. ("Diseases of the Liver and Portal Vein") of Ziemssen's "Cyclopædia of the Practice of Medicine" has been received. It completes the American reprint of this great work. There is still another volume due in Germany. The time of its appearance is so uncertain that the publishers think it wisest to omit it from the American series, and announce that, upon the issue in Germany of the work on "Diseases of the Skin," which will there form a part of Ziemssen's Cyclopædia, they will at once have it translated and publish it here as an *independent volume; and, further, they will present a copy, tastefully and strongly bound in muslin*, to every subscriber to Ziemssen's Cyclopædia who has completed his set by that time.

Medical Journals of the World.—Of these, France and her colonies possess 147, of which 95 are published in Paris alone. Germany has 129; Austria, 54; Great Britain, 69; Italy, 51; Belgium, 28; Spain, 26; Russia, 26; Holland, 16; Switzerland, 10; Norway and Sweden, 9; Denmark, 5; Portugal, 4; Turkey, 2; Greece, 1. In America 183 journals are said to be published, but this must be an under-estimate. Asia is supplied with 15, while Oceanica boasts 2, which should have a wide circulation. The entire number of medical journals published the world over is 785, most of which live by preying upon each other directly or by bolting the half-digested items obtained at third-hand from the journal in which they were originally "extracted."

Odium Scientificum.—The calm, cold atmosphere of scientific discussion does not appear to prevent that heated state of feeling formerly supposed to be the peculiar weakness of theologians. At a recent meeting of the Académie de Médecine, Prof. Pasteur's course in keeping secret one of his scientific discoveries was animadverted upon by Prof. Guerin, whereupon Pasteur said, cuttingly, "When, in the name of clinical principles, a man has proposed to aspire pus to the surface of wounds by means of an india-rubber cup, some tubes, and a pneumatic pump, he is capable of anything." These personalities nearly ended in a duel, the rumor of which, it is said (owing to the fact that one of the would-be combatants is nearly an octogenarian, and the other hemiplegic), caused some hilarity in the Academy.

Borax in Hoarseness.—This salt has been employed with advantage in cases of hoarseness and aphonia occurring suddenly from the action of cold. The remedy is recommended to singers and orators whose voices suddenly become lost, but which by these means can be recovered almost instantly. A little piece of borax, the size of a pea, is to be slowly dissolved in the mouth ten minutes before singing or speaking. The remedy provokes an abundant secretion of saliva, which moistens the mouth and throat. This local action of the borax should be aided by an equal dose of nitrate of potassium, taken in warm solution before going to bed.—*La France Médicale.*

Poisoning by Chlorate of Potassium.—The Marseilles *Médical* relates a case of poisoning by chlorate of potassium. An el-

derly man took, in mistake for Epsom salts, thirty-five grammes of chlorate of potassium. Death, which followed in seven hours after the ingestion of the salt, was preceded by the following symptoms: vomiting, colic, and diarrhœa, general weakness and rigidity of the limbs. After death the skin of the dorsal and lumbar regions presented a slate-colored appearance.

FAILURE OF WICKERSHEIMER'S "PRESERVATIVE FLUID."—The absolute failure of Wickersheimer's solution, so widely quoted as the best preservative of anatomical subjects, appears to be settled. The solution of acetate of alumina is said to be much better, and deserves a thorough test. Burow used a concentrated solution as an injection with such success that after two weeks two cadavers (children) showed no evidences of putrefaction.

GERMAN EYE AND EAR INFIRMARY.—In the year 1880 there were gratuitously treated in the Dispensary of the German Eye and Ear Infirmary (Dr. M. Landesberg, surgeon-in-charge), 441 North Fifth Street, 1190 patients, of which number 829 were for eye diseases and 361 for ear diseases. The number of important operations performed in the institute was 111; of minor ones, 153.

WHAT IS FAME?—Prof. Laboulbène, in a long and interesting lecture on the history of medical journalism, gives the following list of the leading medical periodicals published in America: *The American Journal, Boston Medical and Surgical Journal,* the reviews and medical journals of Cincinnati, Indiana (!), New York, etc. etc.

ACCORDING to Mr. D. G. Crain, United States consul at Milan, from 230,000 to 260,000 pounds of quinine are produced in the world yearly, of which 45,000 are manufactured in Italy.

NOTES AND QUERIES.

ACCEPTANCE BY DR. WILLIAM PEPPER OF THE OFFICE OF PROVOST OF THE UNIVERSITY OF PENNSYLVANIA.

To HON. JOHN WELSH, CHAIRMAN:

DEAR SIR,—I had the honor of receiving to-day a subcommittee, composed of Messrs. Rogers, Merrick, and Mitchell, who informed me of my unanimous election as Provost of the University of Pennsylvania.

They informed me at the same time that the Board of Trustees had made certain modifications in the duties and powers of the Provost, and had also enlarged the disciplinary and supervisory functions of the respective faculties.

While rejoicing at what appears a marked improvement in the organization of the University, I am highly gratified at finding that these changes render it possible for me, while continuing to hold my chair in the medical department, and to pursue the practice of my profession, to accept the important post to which I have been elected.

I shall esteem it the highest honor and privilege to be able to serve the University in this capacity; and I earnestly trust that, with the cordial co-operation of the Board of Trustees and of the various faculties, the general welfare of the institution and the efficiency of its administration may continue unabated.

I have the honor of remaining

Your obedient servant,

WILLIAM PEPPER.

OFFICE OF THE PUBLIC PRINTER,
WASHINGTON, D.C., January 19, 1881.

EDITOR OF THE *Philadelphia Medical Times:*

SIR,—This office is almost daily in receipt of letters from medical men throughout the country asking where they can obtain copies of the "Medical and Surgical History of the War."

To those of the fraternity interested I take this method of informing them that a bill has recently been introduced in Congress which authorizes the Public Printer to reprint from the stereotype plates an edition of fifty thousand copies of each of the four volumes heretofore issued from the Government Printing-Office. The fifth volume is now going through the press. Should the bill become a law, these books will be for gratuitous distribution by Members of Congress. Consequently, those who make timely application can, no doubt, be accommodated.

By giving the above communication a place in your valuable journal you will, I think, confer a favor on the faculty generally.

Yours respectfully,

A. F. CHILDS,
Chief Clerk.

WANTED.

HUMAN EMBRYOS, from the second to the fourth month of development, for microscopical study of developing teeth. Address DR. E. T. DARBY,
No. 1513 Walnut Street,
Philadelphia, Pa.

January 19, 1881.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM JANUARY 9 TO JANUARY 22, 1881.

BAILY, J. C., MAJOR AND SURGEON.—His leave of absence granted him in S. O. 188, December 13, 1880, Military Division of the Pacific and Department of California, extended one month. S. O. 13, A. G. O., January 18, 1881.

COUES, E., CAPTAIN AND ASSISTANT-SURGEON.—Having reported in person, is assigned to temporary duty in the office of the Medical Director of the Department. S. O. 1, Department of Arizona, January 3, 1881.

MEACHAM, F., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to temporary duty at Fort Niagara, N.Y., during absence on leave of Assistant-Surgeon Price. S. O. 6, Department of the East, January 10, 1881.

GIRARD, J. B., CAPTAIN AND ASSISTANT-SURGEON.—To be relieved from duty in Department of Texas, by Commanding General thereof, on receipt of this order, and then to report in person to the Commanding General, Department of Arizona, for assignment to duty. S. O. 14, A. G. O., January 19, 1881.

TAYLOR, B. D., CAPTAIN AND ASSISTANT-SURGEON.—To be relieved from duty in Department of the East, by Commanding General thereof, on receipt of this order, and then to report in person to Commanding General, Department of Texas, for assignment to duty. S. O. 14, c. s., A. G. O.

PRICE, C. E., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for one month and ten days, to take effect on arrival of Assistant-Surgeon Meacham at Fort Niagara, N.Y. S. O. 2, Military Division of the Atlantic, January 10, 1881.

COMEGYS, E. T., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for four months on Surgeon's certificate of disability. S. O. 4, A. G. O., January 7, 1881.

BURTON, H. G., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Now awaiting orders at Boston, Mass. To report in person to the Commanding General, Department of the East, for assignment to temporary duty. S. O. 7, A. G. O., January 11, 1881.

PHILADELPHIA, FEBRUARY 12, 1881.

ORIGINAL LECTURES.

ABSTRACT OF A CLINICAL LECTURE ON A CASE OF NEURITIS OF THE BRACHIAL PLEXUS BELIEVED TO BE DUE TO MEDIASTINAL CARCINOMA.

Delivered at the University Hospital, January 22, 1881,

BY H. C. WOOD, M.D.,

Clinical Professor of Nervous Diseases in the University of Pennsylvania, etc.

Reported by Dr. CHARLES K. MILLS, Chief of Nervous Clinic.

GENTLEMEN,—This man comes to us complaining of pain at the root of the neck, extending into the right arm and associated with great tenderness. He states that he has had epilepsy for nearly forty years; but his intelligence seems to have been in no wise affected thereby. He is very bright and shrewd in his answers, denies all loss of memory, and offers no history of headache, vertigo, or other evidence of gross cerebral disease. His present illness he dates back to last August, when the pain, of which he now complains so much, commenced, and, to use his own words, the "cords of his neck began to draw down." The pain since it set in has steadily increased; it is persistent, with exacerbations, and frequently at night entirely banishes sleep. At the same time the unfortunate sufferer has gradually been compelled to assume the posture which you now see. His head and body are bent far forward, so as to give his spine a marked curvature. If he attempts to straighten himself, or if you try to pull him backward to an erect position, he complains of great pain at the root of the neck. He crouches in this ungainly position, not from any paralysis of the muscles of the back, but because of the pain which he suffers if he tries to assume any other posture. Even at night he cannot stretch himself out at full length: in fact, he usually sleeps propped half up in bed or in an arm-chair. His shoulders and upper chest appear to be drawn downward and forward by muscular spasm.

When I touch him you observe evidence of great hyperæsthesia over the right shoulder, right arm, and right side of the neck and chest. He shrinks in alarm from the slightest touch. The man complains of no shortness of breath; but, as I look at him stripped, his respiratory movements are evidently hurried, and on counting I find them twenty-eight a minute. On looking further for evidence of disturbed breathing, you see that inspiration is distinctly longer than expiration, and that the right supra-clavicular space is sunk in much more than the same space on the left side, especially during a full inspiration; also notice that a distinct line or groove of depression or sinking is seen between the lower ribs on the right side, this not being present on the left. Further, if you watch a moment, you will no doubt agree with me that the play of the spaces between the ribs is much freer on the left than on the right side: even during forced inspiration the left intercostal spaces do not fill out.

Passing from the chest, your attention must have been at first sight attracted to the tumor which he has in his neck. It is without doubt an enlargement of the thyroid body, as it is not affected by respiration, but is controlled by the movements of the larynx. It is very tender to pressure. Searching farther, I find several other hard bodies deeply placed in the neck. They are evidently glandular enlargements. This thyroid tumor has been present for years, but it was small until last August, since which time it has grown steadily. The enlarged glands have probably recently appeared; but we can get no distinct information upon this point.

This man, gentlemen, has been before a number of physicians of this State without their being able to tell him what his disease was,—at least, so he states,—and comes to-day for an opinion as to his ailments. Of course he has epilepsy; but this does not seem in any way connected with his present illness,—it is of too long standing, and has given rise to too little evidence of severe cerebral implication, whilst the present attack is substantially acute. There seems to be a general neuritis of the whole brachial plexus, as is indicated by the hyperæsthesia and shooting pains. You may say these are centric, due to a cervical pachymeningitis; but not so, gentlemen. A cervical pachymeningitis could hardly be so absolutely one-sided as the symptoms here necessitate, or so accurately confined to the region of the brachial plexus. More-

over, the nerve-trunks are everywhere exceedingly tender; and this indicates a neuritic rather than a centric hyperæsthesia. Further, cervical pachymeningitis could not account for the chest-symptoms.

You will say, Why is it not aneurism? There are no physical signs of aneurism discoverable; the pulses on the two sides are uniform both in the radials and in the carotids; there are no evidences of disturbed circulation in the neck; it is not conceivable that an aneurism could get high enough in the neck to implicate so seriously the brachial plexus and not reveal itself; an aneurism would not cause enlargement of the cervical glands. These, stated very briefly, are the reasons why an aneurismal theory is not, to my thinking, tenable.

The man attributes his trouble to the tumor on the neck. Pressure upon it causes shooting pains throughout the whole affected region; but pressure on the arm or supra-clavicular space, or even on the front of the chest, will do the same thing: so that this signifies nothing. The neck tumor feels like a cystic degeneration of the thyroid gland; but I do not believe that the whole of this patient's disease is in the thyroid gland. The respiratory symptoms are pressure-symptoms, but they are not the manifestations of laryngeal pressure. You have here no hoarseness, no loss or change of voice. Moreover, the larynx is quiet, and does not make the irregular movements which are so generally connected with laryngeal obstruction. Besides, the contraction in the intercostal spaces and the sinking in of the base of the chest are very much more marked on the right side than on the left. The disease of the cervical glands, likewise, is not sufficient to account for the symptoms. Pressure is exerted on parts too low in the chest to be affected by cervical enlargements.

The respiratory symptoms are so one-sided that it seems to me they must be due to pressure upon the right bronchi. It is strongly probable that we have here a case of mediastinal tumor.

In the mediastinum, as you know, are many glands. The condition of the cervical gland would indicate that these are diseased. The rapid development of the condition would indicate something more than lymphadenoma: this is confirmed by the severity of the neuritis. There is not evidence enough of pressure to explain altogether the involvement of the brachial plexus. It would seem that these nerves are surrounded by something which not merely presses but, much more, irritates them. Mediastinal tumors are very frequently sarcomatous; and it is most likely that the man has extensive sarcomatous or carcinomatous degeneration of the mediastinal glands, giving origin to a similar disease of the cervical glands and causing neuritis of the brachial plexus.

Such being our theory of the case, the prognosis is, of course, bad: little can be done, only that his sufferings may be alleviated by the free use of narcotics. I have, however, given so unfavorable an opinion that the man is anxious to leave the hospital for his home in the centre of the State.

ORIGINAL COMMUNICATIONS.

THE PROFESSIONAL RELATIONS BETWEEN THE PHYSICIAN AND THE DRUGGIST.

Read before the Philadelphia County Medical Society, November 24, 1880,

BY GEO. B. H. SWAYZE, M.D.

MR. PRESIDENT AND FELLOW-MEMBERS,—By your indulgence I desire for a short time to join you in some consideration of one of the most important and universally-felt interests of our profession. While the subject is not new, every observing, thoughtful practitioner of medicine must often realize that the problem of the medical and pharmaceutical relations deserves renewed and vigilant consideration, in order that some reformative means may be devised, through which evils of omission and evils of commission pertaining to the professional relations between physician and druggist may be corrected. To the great mass of physicians the practice of medicine has its business aspects as well as its more strictly professional province. In the experience of a large proportion of the members of our humane profession it is doubtless often a question which of these relations of professional life, business or medicinal, necessarily assumes the more vital consequence. The professional prosperity of the physician, and, as society has learned to gauge civil and social values, often the professional prestige of the physician, depend not only

on his educational proficiency, or on his opportunity of serving the needs of an ever-needy public, but also on his ability to secure adequate and reasonable compensation for his devotion to a high and worthy calling. In every other profession and avocation this business feature of their work has ever been more definitely and rationally recognized than in the medical. I believe that more than one physician has repeatedly found reason to feel that the ideal humanitarian embodiment of the practice of medicine has been so fostered that many people have educated themselves to the sentiment that *doctors are conveniences without rights*, whenever the latter conflict with the selfishness and caprice of those who use them.

In taking a comprehensive glance at the inter-professional domain of physicians and pharmacists, we perceive that the office of physician is peculiarly that of discerning the nature of diseases, of deciding what are the therapeutical indications of their treatment, and either dispensing or directing, orally or by prescription, what remedies he considers proper for their relief; while, professionally, it is the office of the pharmacist to prepare, preserve, and compound the remedies needed by the physician in the treatment of disordered conditions of the human system.

In the earlier days of the healing art, before it became the fashion for the medical practitioner to delegate to another class of business-men almost the exclusive management of the therapeutics of medical practice, physicians furnished themselves with the remedies actually needed, kept under their own control the knowledge and prestige of their art, attended patients at less unnecessary expense than attaches to the modern mode, were held in high personal and public appreciation, enjoyed lucrative incomes, and were everywhere recognized as influential and honored factors of society.

As the apothecary advanced from the obscurity of pharmaceutical chaos, and the medical practitioner reached to him the hand of friendship and professional support, the physician did not foresee that, through the system of prescription-writing and the sending of patrons to drug-stores for all needed remedies, he would be placing both his professional knowledge and his business interests, day by day, year by year, continuously into the hands of the druggist, and that through these the opportunities, influence, and importance of the druggist would so rapidly augment that said druggist would soon become the formidable business rival of the physician in nearly every practical sense, while the professional consequence and prosperity of the physician *must* proportionally wane.

Before proceeding further, Mr. President, I beg to disclaim any intention of reproach or invidious purpose in my references to what strike me as radical defects in the ethics adopted in practice by pharmacists in their relations towards physicians. I lay nothing at the personal door of any particular druggist, but aim solely to reach some analysis of the principles on which our mutual relations are conducted, and get some periscope of the ground lying between the individual provinces of physician and druggist. And in this connection let me premise that as businessmen the generality of druggists excel the generality of physicians. They are enterprising gentlemen, who guard and exalt their opportunities with pious, almost Spartan, fidelity, who make their profession the *medium* of *business*, and neglect no means that come within their reach to advance their pecuniary interests. In nearly all cases of illness attended by the physician the druggist gets hold of the cash end of the account, while the doctor is left to console himself with the trust end. Ostensibly the druggist is the aid of the physician. He keeps in stock an extensive variety of remedials from which the physician is to draw supplies for patients, usually on written instructions. The druggist solicits the confidence and aid of physicians, and expects to be sustained through the patronage of their clients. With his eye on the "main chance," the druggist makes it a rule to "never turn a customer away," lest he carry his money to somebody else. Therefore, if a physician prescribes for a case, and his prescription proves decidedly successful, instead of that physician reaping his legitimate, substantial reward for his skill, the druggist takes it instead, often for the remainder of his life. The prescription, being a written instruction or direction for temporary use only, is placed on file by the druggist for future reference, and as often and as long as the refilling of that prescription is applied for by the party for whom it was originally intended, or his

friends and neighbors, it is put up without any reference to the prescriber's knowledge, wishes, or interests.

Perceiving that the druggist is the recipient of the unbounded confidence and daily patronage of the physician, and finding the druggist such an accommodating substitute for the physician in mild cases when the patient is not absolutely bed-fast, and sometimes when he or she is so, it comes to pass that there is carried on a continuous undercurrent of medical practice over the counter by the druggist, either with or without the aid of the physician's prescriptions on file.

Sundry capitalists and patent-medicine speculators aim to create a demand for their wares by turgid praise and misleading puffery. The powers of the press are invoked to carry the glad tidings to all the afflicted. Patent-medicine almanacs and proprietary-nostrum circulars bearing the imprint of names and business address of druggists of established reputation in the neighborhood, with their gorgeous invitations to come and be healed, are pushed into every house. The obliging druggist puts the advertised articles into stock in unending variety and attraction. He has received the compliment of a thorough advertising gratis, and his illuminated windows, gleaming shelves, and chaste marble counters bristle with these formidable and injurious substitutes for legitimate medical practice. Instead of co-operating with the conscientious, well-meaning, deserving physician by holding the local field for legitimate prescribing, the druggist becomes the introducing and selling agent of these astute nostrum-speculators for a percentage margin; and by the dispensation of such nostrums, whether by gift or by sale, the druggist constitutes himself the practitioner of quackery, virtually assumes the treatment of the innumerable diseases for which the bottle-wrappers effusively recommend the contents, and thus yet further curtails the physician's field of professional usefulness and support. It is apparent that patent-nostrum speculators depend on druggists for their success in coining millions of dollars from the means of the always gullible public, while the regular physician is often left to plod in penury through a life of disappointment, hardships, and privation.

If it is the moral duty of the enlightened physician to protect his patrons and the public from the injuriousness of patent nostrums, why is it not the moral duty of the enlightened druggist to do so also? Is it not because his business principle forbids him from ever turning a customer away, lest he go to somebody else? Is it not because the dollar is the prime consideration? Is it not because he is so thoroughly wedging himself between the physician and the public that the physician must take the lamb's share while the druggist appropriates the lion's share of general medical practice?

It is the policy of patent-medicine advertisers to prejudice the minds of the unstable against the employment of physicians in the diseases for which they offer panaceas. They affirm that, if their nostrum does not give relief, it is useless to run up a bill with a doctor, as the article has been known to cure thousands of cases that had been given up by the doctors; for the evidence of which they refer people to the druggists who handle their wares. These wily sharks thus hold out their delectable bait for the credulous, the anxious, the venturesome, the constitutionally infirm, who grasp at every straw tossed in their way by the capricious winds of chance or *finesse*, and go down amid the confusion and effusion of their deceptions. Without doubt it is the semi-professional prestige given these nostrums by their pharmaceutically educated agents, our respectable and influential druggists, who display the flaming show-cards, display the miraculous wares, display their overwhelming recommendations, that keeps in daring vigor the impetus of their sale among the people, resulting in increasing injury to the public, tampering with the opportunities for relieving and restoring impaired health, and aggressively encroaching on the professional province of the regular physician.

A flagrant injustice is done physicians by druggists who, without being so authorized by the prescriber, frequently and indefinitely renew prescriptions intended by the physician for temporary employment only, and often making them up for persons or families other than the one for whom they were designed. This disloyalty to the confidence and purpose of the physician practically cuts off a large measure of the just support of the physician by placing the druggist in the field as the prescriber and personal substitute of the

medical practitioner, and presenting the impolitic virtue of surreptitiously appropriating the doctor's brain and recipe to guillotine the doctor's income!

There is no doubt that the abuses of unauthorized renewals seriously endanger the welfare of patients by the prolonged use of potent remedies, as calomel, nux vomica, the iodides and bromides, chloral, morphia, opium, and alcohol.

As excuse for the commission of this wrong it was recently urged by representative pharmacists in conference with a number of physicians that physicians do themselves the injustice in great measure by not putting upon their prescription-blanks, "*Not to be renewed*"; and, further, having procured the prescription from the doctor, it belonged to the patient to use as he pleased. That these fallacies should be offered as a "scape-goat" it is natural to expect. In the first place, every intelligent druggist *knows* what was the *intent* and *purpose* of the physician when he wrote the prescription that is brought to the apothecary to be filled, and every such druggist knows that his disregard of the intent and purpose of that physician is a breach of good faith and a professional as well as a business injustice towards the prescriber: it is *not* doing to others as you would that others should do to you. A prescription is simply a *written direction* to the druggist stating *what* the physician desires shall be *furnished* the patient *at that time*, and embracing the *directions* as to *how* the remedy shall be taken. The *prescription*, or *note of instructions*, together with the *functions* performed by the *apothecary*, constitutes simply a *substitute* for the *dispensing of the indicated remedial by the physician's own hands*. In considering his cases the physician's *knowledge*, *experience*, and *judgment* are brought into requisition. The *patient* receives the benefit of *these* in his *conclusions and advice*. If he charges a fee, it is for his *professional service*. His *direction* as to what the druggist shall compound for the case is an *incidental matter*. This use of the prescription is guaranteed the patient for once filling, and does not confer on the patient or the druggist the right to *hazard the renewals of that prescription indefinitely and promiscuously*. The existence of such rights is a misconception, even of statute, if there be any such. Law is the guardian of the public welfare: its spirit and purpose mean protection. It does not give man the right to abuse or injure either himself or others. The law recognizes the sovereignty of *purpose*. The spirit of the purpose is recognized as defining the merits of the act. *The only problem to be grasped in defining the proprietorship of the prescription is the purpose of the prescriber.* If the physician has no moral right to jeopardize the welfare of a patient or the public, common sense must teach that he would not so stultify himself as to extend to patient or druggist a *carte blanche* privilege of doing what the doctor himself has no right to do. It is an astounding doctrine, fostered by pharmacists, that the will and purpose of the prescriber are to be subverted by the rashness of the patient, the stealth and inconsiderateness of persons who venture to use prescriptions compounded for other people, and the business policy of druggists, who habitually thus expand pharmacy into a medical quack practice according to their constant and increasing opportunities. As physicians it is just that we ask ourselves this great question: Are our prescriptions, our professional knowledge and experience, and the business prestige pertaining to these, to be trucked out at will by those whose opportunities make them custodians of our written instructions relative to cases to which we are called? *The legality of the proprietorship immunities of our written prescriptions or instructions may be very promptly settled by our suspension of the fashion of issuing them.* There must certainly be some method by which the medical province, the public welfare, the professional dignity, may be protected.

In the absence of statistics, I venture the assertion that druggists conduct one-half of the medical practice of the day through the continuous and broadcast dispensation of patent and proprietary medicines, by renewals of physicians' prescriptions, and by other ventures at prescribing for persons over the counter on some general statement of symptoms or complaint by the applicant, either for himself or other member of the family, or for some friend.

Thoughtlessly physicians have for years been giving out so much professional rope to pharmacists and the public, and in the mean time pharmacists have so industriously and energetically wedged themselves in between the "dear public" and

the professional province of the physician, that they are rapidly getting into shape to monopolize the field of medical practice. Already representative druggists claim that the pharmacist has the first ear of the public, and that upon his recommendation it depends who shall find general employment in the community. From the fact that druggists manipulate the prescriptions of physicians, the newer public instinctively turn to the druggist for advice in regard to who is the better physician to employ. Upon this most important circumstance there hinge the temptation and injustice of collusion between druggist and doctor for percentage on prescriptions, by which the local field of practice is prejudiced in favor of a certain doctor, with an interested discrimination against his fellow-physicians equally worthy and skilful.

Cajoling themselves into passiveness by the friendly allurements of pharmaceutical convenience and aid, lulled to repose by fancied security, medical practitioners have drifted farther and farther from the fundamental wisdom of guarding and garnering their professional knowledge and advantages instead of confidingly spreading them daily under the caprice and manipulations of persons of acute business instincts, who assume that they cannot, and it is universally known that they *do not*, refrain from subjecting the purpose and province of physician to continuous and damaging trespass. There is awaking in the minds of many medical men a spirit of profound dissatisfaction under the proddings of pharmaceutical infringements, and a growing impulse towards reaction pervades medical thought.

Meetings for consultation have been held by representative members of the Philadelphia Medico-Legal Society and a number of representative druggists, including a professor in the College of Pharmacy, for the purpose of mutually devising some plan for correcting and advancing the interests of our medical and pharmaceutical relations. While the correctness of our attitude was in the main assented to, there was manifested a marked indisposition on the part of several prominent pharmacists to take positive hold of the work of reform, while the burden of the task was placed upon the shoulders of the physicians. It was affirmed by druggists that they could not live by prescription business. But we answer that prescription business is compelled to undergo constant shrinkage through the substitution of patent-nostrum business and various other forms of prescribing by druggists themselves, to which must be here added their high charges for medicines that drive so many people to homœopathy. How can pharmacists expect physicians to sustain a vigorous prescription business if they are cut off by pharmacists in every available way from opportunities of prescribing? Druggists should perceive that in proportion as they foster the rooting and growth of patent-nostrum practice, in proportion as they substitute the physician by making up renewals of prescriptions, in proportion as they intercept the medical functions of the physician by venturing to prescribe for and treat cases of disease, in that threefold proportion do they overstep the pharmaceutical province by invading the physician's legitimate field of professional work, with the inevitable result of curtailing prescriptions and paralyzing legitimate pharmaceutical business.

In the course of these conferences an appeal for the adoption of a mutual medical and pharmaceutical code of ethics was presented, signed by about forty physicians, including the names of several medical college professors and lecturers. While this appeal was not accepted in form by the pharmacists who met with us, it resulted in the presentation of a resolution reviving a section of an old pharmaceutical code that, in practice, had been lost sight of for a score of years. At the conclusion of our appeal for a code we pledged "ourselves to throw the entire weight of our professional patronage in favor of such pharmacists as do in good faith join us in correcting the existing evils of medical and pharmaceutical relations."

The results of the work thus far accomplished are embraced relatively in the three following resolutions, through the practical operation of which it is to be hoped the entire medical profession will at once begin the re-education of the public in their perceptions and estimate of the province of the regular physician.

In regard to patent-medicine abuses,—

"*Resolved*, That the subjects under consideration be referred to the Philadelphia Medico-Legal Society, and that they be requested to send a committee to all respectable druggists, requesting them to place out of sight all patent medicines and

discourage their sales, and all druggists thus agreeing, to subscribe their names to such agreement.

"*Resolved*, That physicians, when writing a prescription which they do not wish renewed, should *write* on the bottom of such prescription, 'Do not renew,' and also inform the patient of the fact in every case; and, on the other hand, the druggist should either *write* or *print* on the label upon the bottle or package, 'Not to be renewed unless by a written order of the doctor.'

"*Resolved*, That as the diagnosis and treatment of disease belong to the province of a distinct profession, and as a pharmaceutical education does not qualify the pharmacist for these responsible offices, he should, where it is practicable, refer applicants for medical aid to a regular physician."

1828 Columbia Avenue.

REMARKS ON SOME POINTS IN THE TREATMENT OF TYPHOID FEVER.

BY WILLIAM PEPPER, A.M., M.D.,

Professor of Clinical Medicine in the University of Pennsylvania.

I HAVE no intention, in the limited time at my disposal, of entering into a full discussion of the treatment of typhoid fever in its various forms and with all its complications, but simply to state in a brief manner the results of my observation as to the management of the ordinary form of this fever, as I have met with it both in hospital and in private practice in this city and its neighborhood.

Although the attempts to isolate the particular poison of typhoid fever have not met with full success, it seems to be generally accepted that this disease is caused by a special *materies morbi*, for the most part admitted to the system through the alimentary canal, although capable, also, of gaining admittance by inhalation. I am disposed myself to believe that this poison is capable of being produced or brought into activity under conditions much more varied than it has recently been the habit to assert.

However this may be, the poison presents certain peculiarities which are important to note from their bearing upon the treatment of the disease. It is undoubtedly capable of retaining its power of infection for a long time latent, so that as soon as proper conditions are present it will manifest activity.

Carefully-observed cases also establish the fact that it is capable of producing typhoid fever although admitted to the system in very minute quantities and much diluted. It seems that the opportunities for the admission of the virus, in such small amounts as have been known to produce typical typhoid fever, must be so frequent and general that a vast majority of the community must at some time or other have been exposed to it. Probably, therefore, it requires, in a degree even greater than do other zymotic poisons, suitable pabulum for its development, and a state of system predisposing to its zymotic action.

At times the virus is so concentrated and active that, in whatever way it gains entrance to the body, it infects the system in nearly every instance and causes a virulent zymosis. On the other hand, the virus may be much less active: so that, supposing it to be taken into the alimentary canal, if the secretions are normal and the glands of the mucous membrane not susceptible or vulnerable, it may be thrown off without the production of the disease. Again, the virus may be more active or more fully propagated in the intestinal canal, and cause marked irritation of the enlarged solitary and Peyerian glands of the mucous membrane, so that the intestinal lesions become considerable; and yet the virus may be arrested in the swollen mesenteric glands and no marked infection of the system occur. This agrees with the well-known fact that no constant relation exists between the degree of intestinal lesion and the intensity of the primary constitutional infection or zymosis.

It is further to be noted that even in cases where primary infection of the system has not been intense, and where the intestinal lesions have been quite marked, it is quite possible, and indeed probably quite frequent, for the morbid intestinal contents to favor further development of the specific virus, and thus endanger continued absorption, or else for the putrid débris and secretions to give rise to a secondary non-specific septicæmia.

It thus seems to me that we must recognize practically the following different primary forms: first, ordinary typhoid fever, with moderate intestinal lesions and mod-

erate zymosis; second, cases with grave intestinal lesions and moderate zymosis; third, cases with grave zymosis and profound constitutional symptoms from the start.

I have spoken of the first form as ordinary typhoid fever, because my own experience would indicate that this and—to a less degree—the second form are by far the most common in this district, although far too frequently individual cases or limited outbreaks of the grave primary zymotic type occur.

I have referred to these familiar views simply to call attention to the immense importance of the rôle which the gastro-intestinal mucous membrane plays in typhoid fever from the earliest moment. It is very important, also, to recognize the fact that the stadium of typhoid fever presents two stages theoretically distinct,—namely, the primary true zymotic stage and the subsequent irritative or secondary septic stage. The first of these is probably the more definite in its duration, lasting, perhaps, from twelve to sixteen days, although the data do not exist for determining its duration accurately.

In speaking of the actual treatment, I would first consider ordinary cases of typhoid fever in private practice, coming under observation at the first development of symptoms of malaise. It is my profound conviction that in a great majority of cases of this form—that is, of course, excluding those of grave primary zymosis—proper treatment of this forming-stage will modify and moderate the whole subsequent course of the case, and will prevent the development of those grave and alarming conditions to the treatment of which so much time and attention are bestowed in most discussions upon this disease.

It is universally recognized that continued exposure and efforts during the forming-stage of typhoid fever greatly increase the gravity and danger of the subsequent attack, and I have often seen patients who, after the symptoms have actually developed themselves, have been allowed to leave the bed merely to use the close-stool or to sit in an easy-chair while the bedclothes were being changed, exhibit early and alarming exhaustion that was at least partially due to these injudicious efforts. The first essential to secure this result should be absolute rest in bed.

I have been surprised to find that some writers who begin by recommending early and complete rest make later allusions which show that their idea of such rest is far from being as thorough as I believe should be enforced. Every case in which the symptoms justify even a suspicion of typhoid fever should, in my opinion, be immediately consigned to bed and the use of the urinal and bed-pan be at once insisted upon. I have even seen such patients, when allowed to leave bed merely to use a close-stool or while the bedclothes were being changed, exhibit such exhaustion at a subsequent stage of the disease as could only be explained by these injudicious efforts. More frequently still have I seen the gastro-intestinal irritation increased seriously by the improper exposure to currents of air while out of bed.

In the next place, a most rigidly restricted diet should be insisted upon. Later in the case more abundant and concentrated nourishment and stimulants will perhaps be called for; but in this forming-stage I believe that a very limited amount of very light nourishment is sufficient, and that its use will exert a happy influence upon the subsequent course of the case. Not only should all solid food be at once forbidden, but the liquid food allowed should be light and very digestible.

Equally important is the avoidance of all irritating medicines, and especially purgatives, at this stage. It is scarcely possible that an emetic or a purgative should remove every particle of the virus from the intestinal canal, and yet we know that the virus will act even when present only in minute quantity and very dilute state if favorable conditions exist; and it is probable that the morbid secretion favored by the action of a purgative in this state of the system constitutes the best possible pabulum for the propagation of the virus, while at the same time it must render the glandular apparatus of the mucous membrane more sensitive and vulnerable. Digestion is disturbed and strength impaired, the intestinal lesions are aggravated, and the case is rendered more serious. If the state of the tongue and secretions indicates a laxative, good results will usually be obtained from the administration of the following:

℞ Hydrargyri chloridi mitis, gr. ii;
Sodii bicarbonatis, gr. xlviii;
M., ft. mas. et div. in pil. no. xii.

Of these one may be taken every two or

three hours until the bowels are moved or until all have been taken, when a movement can be secured by an enema of tepid water or gruel.

During this early stage the remedy which seems to me most constantly called for is quinia, which I am in the habit of giving in larger doses than at the later periods of the disease, except in a particular condition. My reasons for so doing are the following: during this stage the irregular febrile movement frequently simulates a mild malarial attack, and undoubtedly a malarial element is not unfrequently present when true typhoid also exists. Again, it is probable that the use of quinine may lessen the activity of the virus and the danger and degree of infection.

If, however, the gastro-intestinal irritation is at all marked, I invariably administer the quinia by suppository, as follows:

℞ Quiniæ sulph., ʒi;
Pulv. opii, gr. iv;
Ol. theobromæ, q. s.
M. et div. in suppositoria no. xii.
S. One every four, six, or eight hours, while the powders above mentioned are administered by the mouth.

I have found very many attacks of mild gastro-intestinal catarrh, with or without malarial complication, with symptoms closely simulating the early ones of typhoid fever, subside rapidly under the above treatment, together with a diet of chicken- or mutton-broth, gruel, skim-milk, or milk and water in equal proportions.

If, however, the symptoms persist, it can soon be seen that a true typhoid fever is developing, and, if so, the observance of the course above described will have tended much to lessen its gravity. Of course the same absolute, scrupulous observance of rest continues essential. The diet should now be as nourishing as the state of the digestion will permit. I believe, however, that it should be liquid in character throughout the entire course of the disease.

I have repeatedly seen ill results from the infringement of this rule, while I have rarely seen a case where the digestion had been carefully managed from the start in which liquid nourishment did not suffice to maintain nutrition. Indeed, such is my conviction of the supreme importance of the condition of the mucous membranes in this disease, and of the necessity of giving only such food as can be fully digested and absorbed, that I am inclined to believe that far more patients are over-fed than under-fed in typhoid fever.

I have seen many cases where, while beef-tea and pure milk were freely administered, dryness of the tongue, nausea or vomiting, and diarrhœa existed, and where the substitution of light chicken- or mutton-broth, and of skim-milk, or milk diluted with equal parts of water, has led to the subsidence of these symptoms and the re-establishment of good digestion.

With regard to the use of stimulants, I have been led to feel that they are not to be regarded as a necessary part of the routine treatment of typhoid fever. During the early stage of the disease, indeed,—unless exceptional symptoms arise demanding them,—their use is often injurious and tends to increase the derangement of digestion and the gastro-intestinal catarrh then existing. When the early stage is carefully managed, stimulants are often not called for throughout the whole course of the case, or only towards the close to hasten convalescence. On the other hand, in cases where the constitutional infection is serious, and marked nervous prostration and heart-failure exist, their free use may be demanded. No question in the treatment of typhoid fever has seemed to me to rival in difficulty that of deciding, in cases which do not come under notice until high hyperpyrexia, serious nervous symptoms, a rapid and feeble circulation, together with marked derangement of digestion, have supervened, how far these symptoms are the result of nervous exhaustion from protracted surface irritation which may be increased by the free use of stimulants, and how far they are the result of poisoning of the nerve-centres and depression of the vital forces by the zymotic poison.

In such cases it is probably better to use stimulants at once, but with the greatest caution and with a mind fully awake to the fact that their use may aggravate the very symptoms they are given to relieve. Where the case has been under observation from the very beginning, and stimulants have been withheld until the appearance of symptoms actually demanding them, it is generally a comparatively easy matter to determine when they are called for, and to decide in what form and to what extent they shall be given.

In every case of typhoid fever the febrile movement should be carefully watched, and the temperature be recorded two or three times in twenty-four hours,—say at 9 A.M., 2 P.M., 9 P.M. In many cases no special treatment is called for to reduce the temperature. If the primary zymosis is not violent, and the gastro-intestinal irritation is moderated by proper means, the febrile movement preserves its well-known course without the maxima attaining, in most cases, a dangerous point. So long as the temperature fluctuates 2° or thereabouts within each twenty-four hours, and the maximum alone, lasting for a few hours or less, reaches 102° to 103½°, while the nervous symptoms and the heart's action are reasonably favorable, no special anxiety need be felt about the pyrexia. This is especially true in women with sensitive nervous systems and in children, since in them high temperatures are most readily produced and have less serious significance. It is, however, desirable for the comfort of the patient and for the promotion of healthy action of the skin that the surface should be sponged several times daily. The water may contain a little alcohol, vinegar, or carbolic acid, and its temperature should be determined by that of the body and by the sensations of the patient. For instance, in a highly-nervous and delicately-organized young woman of 25 years, with marked typhoid fever in which the maximum daily temperature reached 104°, 104½°, even 105°, for ten or twelve days successively, sponging even with tepid water produced a sense of chilliness, so that it was entirely abandoned, and a perfectly satisfactory recovery was made. I am entirely convinced that any "cold-water treatment" of typhoid fever, with rigid rules for cool bathing, etc., as soon and as often as the temperature reaches a certain point (102½° to 103½° or so on), is unphilosophical, unnecessary, and less successful than the simpler mode of treatment here advocated. The excellent results obtained by some of the advocates of frequent cool bathing show that such baths are well borne and may be safely conjoined with a scrupulous attention to all the other details of rational treatment. But I have preserved the notes of the last one hundred cases of typhoid fever of whose treatment I have had the direction from the beginning of the attack, and the mortality has been but three per cent., and in only five or six of these cases were full baths employed. In the great majority of cases, then, I believe that cool bathing can be dispensed with, and sponging of the surface be found sufficient. But, on the other hand, there are certain conditions that seem to call imperatively for rapid reduction of temperature by cold baths. The first of these is when, early in the case, the temperature rises very high (104½° or over) without any sufficiently severe local irritation to explain it, so that there is clearly a grave zymosis present. Again, when at any period of the disease the daily maximum reaches 105½°, and the daily average is very high, and the hyperpyrexia is maintained despite the free use of cool sponging and the judicious use of antipyretics, cool bathing should, as a rule, be instituted. I follow this rule whether the hyperpyrexia is due apparently to increased septicæmia or to the failure of the inhibitory action of the nervous system; but if severe pulmonary inflammation or a serious exacerbation of intestinal inflammation has occurred to cause it, I do not advise the use of cool baths until the character of the nervous symptoms or the failure of the force of cardiac action indicates that the exalted temperature is producing dangerous secondary results. A few words must be added in regard to the use of other means for reducing hyperpyrexia. Undoubtedly, quinine is the most reliable of these. I have already spoken of its use in the later stages of the disease, either by mouth or rectum, and I think its judicious use thus greatly lessens danger of hyperpyrexia later. When, however, the temperature runs up as the disease advances, it does not seem to me advisable to give large single doses of quinia, but to persevere with the use of twelve to twenty-four grains given in divided doses during the twenty-four hours. The elevation of temperature is so frequently connected with the evolution of gastro-intestinal lesions that it appears desirable to avoid any measure liable to increase this surface irritation. The administration of colossal doses of quinia (twenty-five to forty grains at a single dose), while capable in some cases of lowering the excessive temperature, it seems to me has in more than one instance shown itself to be open to serious objection. If, however, the temperature persistently rises despite absolute rest, judicious

diet, the regular use of quinine in moderate doses, repeated sponging, and if any special reason exists why cool bathing should not be used, or if after cool baths have been used the dangerous hyperpyrexia persists, then only would I recommend the administration of very large doses of quinia; nor would I use them even then unless the state of the stomach encouraged the hope that severe gastric irritation would not result. Digitalis, which is very valuable where failure of the innervation of the heart exists, has not, in my experience, proved itself reliable as an antipyretic or a tonic to the heart when its feeble action results from degeneration of the muscular walls from hyperpyrexia. Salicylic acid and its salts have also disappointed me, often failing to reduce the temperature satisfactorily, and often causing a most unsatisfactory amount of gastro-intestinal irritation.

To return from this consideration of the treatment of the pyrexia in typhoid fever, there is one other condition, and only one, that seems to me to demand attention in every case of this disease. Pulmonary or venous complications may or may not exist in any pronounced degree, but unquestionably there is wide-spread irritation of the gastro-intestinal mucous membrane in every case. This may or may not be so intense as to prove the source of the greatest danger in the case, it may not be associated with severe diarrhœa,—nay, there may not be the slightest diarrhœa present,—and yet there is always hyperæmia and follicular enlargement. Differences between individual constitutions, as well as differences in the degree of these local lesions, cause them to exist in different degrees of reflex irritation, and thus to influence very differently the symptoms and course of the case; but the essential fact is that they are present in every case to an unknown extent, and the obvious inference would seem to be that they should receive suitable treatment in every case.

My own feeling is that this treatment should be instituted as soon as reasonable suspicion exists that the case is one of typhoid fever, and that it should, if possible, be steadily maintained until it may be thought that the mucous membrane has returned to its healthy state. It seems to me altogether probable, even despite the presence of a special poison in the intestinal contents, that some control can be exercised over the extent and progress of these local lesions; and I must add that prolonged clinical observation has convinced me of the truth of this view. The substances which would seem most appropriate for this purpose are the salts of silver and of bismuth and creasote or carbolic acid. Of these my own preference is very decidedly for nitrate of silver, the use of which now constitutes an essential and, in my judgment, a most important part of my treatment of typhoid fever. After the preliminary measures before described, I direct nitrate of silver in the dose of one-quarter or one-sixth of a grain for an adult, usually in pill, or for children in solution in mucilage of acacia three or four times daily, to be taken soon after food. If the bowels are constipated, extract of belladonna is combined; if a tendency to looseness exists, a small amount of powdered opium is added. When given in solution, the opium is added in the form of a few drops of deodorized laudanum. Since I was led to the adoption of this remedy by the study of the morbid anatomy of typhoid fever, I have acquired a constantly-increasing confidence in its value as an element of the rational treatment of this disease. By modifying, as I believe it does, the state of the mucous membrane, it modifies the symptoms that are dependent on the irritation reflected from the mucous membrane; and the result has seemed to me to be that in a long series of cases treated with most scrupulous attention to every detail, and in all of which nitrate of silver was administered, there has been a remarkable freedom from grave complications and a most gratifying percentage of recoveries (ninety-seven per cent.).

As may be inferred from the above remarks, there does not seem to me any objection to the judicious use of opium in typhoid fever. Not only have I seen it useful in checking diarrhœa, but it has often proved the most valuable remedy for the insomnia, headache, and excessive nervous excitability that may be present in this disease. It is true that I have known one of the bromides or chloral or spirit of chloroform produce good results in some cases where such symptoms existed, but far more frequently I have succeeded in relieving them by the use of carefully graduated small doses of deodorized laudanum, given alone, or with sweet spirit of nitre, or with a moderate dose of bromide

of potassium. Not until opium has failed, unless decided constipation exists, do I resort to the use of chloral or the bromides alone.

Time will not allow me to allude in detail to the measures which have proved, in my experience, most valuable in the treatment of the numerous complications of typhoid fever. When bronchitis becomes severe or pneumonia ensues, I substitute carbonate of ammonia for the nitrate of silver, continuing the use of full doses of quinia, increasing the amount of alcohol, and avoiding the use even of sponging with cool water unless the temperature goes over 105° Fahr.

By the observance of a very carefully regulated diet and the early use of nitrate of silver with minute doses of opium, the occurrence of troublesome diarrhœa is rendered rare. When it does occur, the diet should be even more carefully guarded and the amount of opium be increased, and, if necessary, acetate of lead, or a carefully prepared mixture of chalk and bismuth, with an opiate, be administered. Tympanitic distention of the abdomen often resuits from the fermentation of excessive or unsuitable food, and will be relieved by modification of the diet, and the administration of some such combination as the following:

℞ Creasoti purificat., gtt. v vel x;
Bismuthi subnitratis, ʒi vel ʒiss;
Tinct. cardamomi comp., fʒiij;
Aquæ, q. s. ad fʒv.

M. One tablespoonful every six hours.

But often also it comes from a quasi-paralytic condition of the intestinal coats which renders them incapable of resisting the expansive force of the gas enclosed. It is when tympanitis is due to this latter cause, and associated with the general symptoms of prostration and with wasted development of the typhoid state, but without much diarrhœa, that the internal use of oil of turpentine in emulsion (ten drops every three or four hours) will usually produce excellent results.

Belladonna in Salivary Fistula.—Mr. James Allen (*British Medical Journal*) says that in two cases of salivary fistula from injury to the Stenonian duct—one after incision, the other due to a stab—the application of belladonna extract with glycerin over the parotid gland of the affected side was followed by arrest of glandular secretion. The fistula then speedily healed without interference.

TREATMENT OF VESICAL CATARRH BY ESTABLISHING URINARY FISTULÆ.

BY D. HAYES AGNEW, M.D.

IN hopeless cases of chronic cystitis it has occurred to me that the life of the patient might be made comfortable by separating the connection of the ureters with the bladder and bringing them out through the abdominal walls, establishing fistulæ either in the iliac or in the lumbar region, and thereby diverting the urine entirely from the bladder. That such a route for the escape of the urine is not so objectionable as might be supposed will appear from the experience of two persons in this city who suffer from urinary fistula occasioned by accident, one of whom is able to attend to his occupation—that of a daily laborer—by swathing the body with a thick roll of bandage, by which the urine is absorbed. If the fistulæ were favorably situated, mechanical appliances might be constructed in which to receive the urine.

The feasibility of the procedure proposed I have satisfactorily verified by dissection and operation on the cadaver. At first I supposed the proper route to the ureters would be through the loin, as in lumbar colotomy; but the colon on each side is an obstacle which cannot readily be overcome. The plan which I pursued was to make an incision beginning one inch below the anterior extremity of the last rib, and terminating two inches below the anterior superior spinous process of the ilium. After dividing the skin, superficial fascia, external and internal oblique and transversalis muscles, the tranversalis fascia is next broken up, together with the loose tissue connecting the peritoneum with the iliac fossa. It only remains to detach carefully the serous sac until the primitive iliac vessel is reached, at the bifurcation of which into external iliac and internal iliac the ureter will be found to pass into the pelvis. Following the tube down, it should be severed as near to the bladder as possible, two ligatures having been previously applied (the lower one catgut), and the division made between the two threads. To relieve any tension on the ureter, a puncture is next made through the parietes a short distance above the upper angle of the wound, and the urinary duct piloted through by means of a probe secured to

the end of the ligature previously attached to the ureter. It only remains to detach the thread from the duct and to secure the latter by two stitches to the external opening, after which the main wound can be closed. It would not be proper to operate on both ureters at the same time. The patient should be allowed to recover from the first before proceeding to the second. Nor would such a surgical procedure be advisable if there was reason to believe that the kidneys were seriously implicated.

NOTES OF HOSPITAL PRACTICE.

PENNSYLVANIA HOSPITAL.

CLINICAL SERVICE OF THOMAS G. MORTON, M.D.

Reported by C. H. Willits, M.D.

CASE OF TRAUMATIC TETANUS FOLLOWING SEVERE INJURY OF THE SCALP WITH REMOVAL OF A SEQUESTRUM.

GENTLEMEN,—The boy I bring before you, who has just recovered from an attack of tetanus due to a severe injury of the scalp, presents about this history:

He is 13 years of age; was admitted on the 22d of September, suffering from an extensive laceration of the occipital region, fracture of the left clavicle, fracture of about four ribs, and many contusions and abrasions. He was knocked down by a train of cars in slow motion, was carried under clear of the wheels, but was caught, pinched, and rolled between the axle of the car and the ground. The scalp covering the entire occipital portion of the skull was torn down and hung upon the neck; the skull underneath it was denuded of the pericranium, and the surface of the bone much roughened.

The boy was evidently caught by the shoulders and squeezed together, as the left clavicle was fractured at its middle, the second, third, fourth, and fifth ribs of the left side had started from their sternal articulations, and one or two of the ribs of the right side were fractured. His right shoulder was much bruised, he was covered with contusions and abrasions, and he was in a state of profound shock.

His arm was placed across his chest to reduce the deformity of the clavicle, carbolized dressings were applied to the scalp-wound, and external warmth, stimulants, and hot beef-tea were ordered until reaction took place. The boy slowly recovered from the shock, and the scalp-flap, which was dressed with carbolized oil, without any tension, did not slough, but discharged pus freely.

His condition remained good until the 8th of October, when he evinced symptoms of tetanus, shown in attacks of trismus, opisthotonus, and general rigidity at intervals for several days. He was immediately placed upon the use of morphia by hypodermic injections in quarter-grain doses, with one fourth of a drop of conia, soon increased to one-half, every two hours; liquid diet, and stimulants. Under this treatment his symptoms gradually grew better, and he was able to leave his bed on the 12th of this month.

It has now been two months since the injury, and you can see a large ulcer and slough covering the occiput, with a piece of dead bone protruding in the wound. This sequestrum, I think, is a portion of the external table, and when I remove it, which I will endeavor now to do, it will leave beneath it healthy granulations. I grasp it firmly with the forceps, and gradually pull it out, displaying beneath a mass of healthy florid granulations which nature has thrown out between the living and dead bone. This ulcer will be dressed with a soft oil dressing, and our patient will soon be entirely cured.

TENOTOMY FOR A CASE OF SCROFULOUS DISEASE OF THE JOINTS.

This patient, a deformed boy, is suffering from the contractures incident to a scrofulous affection of the joints. Some time ago I performed the operation of tenotomy upon the hamstrings of the right ham and straightened the limb, and then applied a posterior splint; and I propose this morning to repeat the operation upon the left leg.

When he was admitted, some time ago, he was suffering from the injudicious use of opium, which he used himself in the form of morphia hypodermically. You will see, by the scarred condition of his body, that almost every available spot except the face shows evidences of the needle. Following its introduction abscesses often took place, due partly to the impoverished condition of his blood. At the time, his urine was albuminous, being nearly one-quarter the bulk albumen; but it cleared completely under the use of Basham's mixture and the stoppage of the morphia.

In September last I had decided to operate upon the left leg, when his urine again showed evidences of albumen, which proved the precursor of an attack of erysipelas. He recovered, and now his urine is perfectly clear, and he is in such good condition that I have no hesitation in endeavoring to restore the position of the limb.

In club-foot operations, in which tenotomy is so frequently employed, an accident could hardly happen, unless it should be the division of the posterior tibial artery, which could be readily controlled by pressure. Of course, when you come higher up, as the ham-string tendons, great care should be exercised that no important structures in the popliteal space are injured in the passage of the knife.

I find, as I grasp the joint, that there have been some inflammatory changes, a process of thickening which does not amount to anchylosis, and which I can nearly overcome by forcibly extending the limb. As I do so, thus making the ham-strings tense, I pass my knife under the tendons of the semi-membranosus and semi-tendinosus, and, pressing the blade against them, feel them give way. This gives the limb a sufficiently good position without the division of the biceps tendon. I now dress the limb in a posterior, straight, pasteboard splint, firmly bandaged.

In overcoming anchyloses in these deformed joints, separation of the epiphysis may take place and even the bones may yield, but the fractures always heal kindly and with excellent results.

It has now become a common procedure in my practice, in treating different angular deformities with anchylosis at the hip, after anæsthesia, to leave the pelvis well secured, then to forcibly fracture the neck of the femur, and then to apply extension in a straight position and treat it as an ordinary fracture. This has, in a large number of cases, replaced excision, simple section, and other modes of treatment, and I have never had any unfavorable symptoms arise, but good has been the invariable result.

Rickets.—The three last meetings of the London Pathological Society have been occupied by a debate on rickets. The *Lancet* warns intending readers of the debate that they will find but little of the nature of recorded fact or observation, while there is an abundance of theory.

TRANSLATIONS.

Muscular Atrophy of Articular Origin.—Dr. Debove (*Le Progrès Méd.*, 1880, p. 1011) says that the considerable deformities brought about by articular rheumatism in part involve the bones, and in part produce contraction or atrophy of the muscles. He has recently had an opportunity to study this atrophy *post mortem*, with the following results. In the old classical descriptions of this trouble writers contented themselves by asserting that under the influence of immobility of the part atrophy with fatty degeneration of the muscles was brought about. Examination now shows that a quite different condition exists. The subject had suffered a long time with articular rheumatism; most of the joints were the seat of rheumatismal changes, and the muscles were considerably diminished in volume; they were found of a yellowish, dead-leaf color. Their muscular fibres, examined under the microscope, showed signs of simple atrophic change without fatty degeneration. In similar cases various coexistent appearances of the muscles might, indeed, lead to the idea that fatty degeneration had occurred, as, for instance, the yellow color, due probably, however, to diminution of the muscular hæmoglobin. The direction of the sections also might lead to mistakes, inasmuch as there is in some cases interstitial lipomatosis, fatty vesicles interposing themselves between the fibres if the sections are made parallel to the direction of the latter, so that it is difficult to say whether the fatty matter is external to or within the sarcolemma. To avoid this difficulty sections should be made perpendicular to the axis of the fibres. In the case in question, the alterations in the muscle presented two characteristics which brought it into relation with myopathy of nervous origin,—namely, the irregularity of the atrophy and the sclerosis of the interstitial connective tissue. The atrophy in the case examined was not equal: not only did it affect certain muscles in preference to others, but in a given fasciculus certain fibres could be observed which were reduced to one-third or one-fourth of their volume, some even only appearing as a red point tinged with carmine. The atrophy, therefore, was not uniform, but affected

only certain fasciculi of the muscle. The connective tissue between the diseased fibres was more abundant and more dense. This irregularity in atrophy has been observed in progressive muscular atrophy, and also by Debove in the muscular atrophy of hemiplegics and paraplegics. On the other hand, the atrophy observed in cachectic cases when the emaciation has been extreme is even throughout, and the interfibrillar connective tissue is not more abundant than in the normal condition. The resemblance presented in atrophy of muscular origin to that of nervous origin has long since suggested the idea of a central or peripheral nerve-lesion on which the articular and muscular lesion might depend. Dr. Debove's examinations, however, have thus far failed to show any lesion of the medulla. The cells of the anterior horns of the medullary gray substance possessed in the case examined their normal appearance. The larger nerve-trunks, however, and even the smaller branches examined to their distribution in the muscles, presented the extremest degree of atrophy.

Operative Procedure in Strangulated Umbilical Hernia.—Dr. Terrier at a recent meeting of the Société de Chirurgie (*La France Méd.*, 1881, p. 34) said that the therapeutics of this affection have been the subject of numerous discussions. Huguier thought that no operation should be attempted. Gosselin, on the other hand, thought that the prognosis of the affection had been made unnecessarily grave, and that if the operation is performed quickly and under favorable conditions success may be hoped for. M. Duplay, while recommending the operation, thought that the smallest possible wound should be made in the peritoneum. Dr. Terrier himself had observed three cases of strangulated umbilical hernia which had been operated on, and he would give the notes. The first was a woman of 77 who had long suffered from an enormous umbilical hernia. She was brought to the hospital with symptoms of strangulation. Dr. Terrier made a long vertical incision, and easily opened the hernial sac without finding a trace of peritonitis. The patient died, however, in the course of a few hours. At the autopsy an intestinal loop was found issuing from the abdominal cavity, which passed through the subcutaneous cellular tissue and returned to the abdomen.

A second case was that of a man in whom the hernia had been strangulated thirty-six hours. It was a small umbilical hernia; the sac was thin and covered with adipose tissue; it contained a small loop of the congested small intestine. Three nicks were made and a cure effected without difficulty, the neck of the sac joining by first intention.

The third case was that of a woman of 45 who had suffered with an umbilical hernia since 1861. Twice symptoms of strangulation had occurred, but reduction had been made without difficulty. The third time reduction was impossible. Operation showed a mass of epiploön in the middle of which was a loop of intestine twelve centimetres in length. After having effected reduction, Dr. Terrier placed a drainage-tube in position. The patient recovered. In conclusion, this success in two cases out of three without any particular operative procedure shows that umbilical hernia, contrary to the opinion generally stated, can be cured by operation.

In the discussion following the reading of this paper Dr. Polaillon mentioned three cases in which he had operated,—twice successfully. Dr. Verneuil thought better not to operate. Dr. Trélat, however, considered that, as the methods of after-treatment were so much improved since the time of Malgaigne, who had advised against operating, operation was now justifiable.

Lipoma of the Tongue.—Guelliot (*Le Progrès Méd.*, 1880, p. 1014) observed in Prof. Gosselin's wards a man of 48 who had had a tumor on his tongue for twenty-five years. This tumor, which had at first appeared as a small tubercle, had grown gradually with the lapse of years until it became large enough to involve the buccopharyngeal opening and interfere greatly with respiration. The tumor, which had a large pedicle, was situated on the anterior and right border of the tongue two centimetres from the median groove, but lying on the superior surface of the organ. It was not deep, being evidently situated on the mucous membrane. Somewhat lobulated, its surface was of a pale rose color with a yellowish tint in some places, while in others the collected epithelium gave it a white color. The mucous membrane covering it was thin and without papillæ; there was slight ulceration at one

point. To the touch it was soft, fluctuating, but not transparent. General and special sensibility of the surface seemed to be wanting. The tumor was evidently benign, and the diagnosis lay between a cyst and lipoma. In favor of the former, the special softness of the tumor and its want of transparency might betoken a cyst with thick walls. In favor of lipoma was its seat on the dorsum of the tongue, its opacity, softness, and the yellowish look of the mucous membrane covering it. It is true that it had not the lobulated feeling usual in adipose tumors. However, this diagnosis was made, and the tumor removed with the scissors after passing a double elastic ligature through the pedicle and around it. Examination showed the adipose character of the growth, the lobules being separated by very thin connective tissue. Lipomata of the tongue are very rare. Guelliot could find but twelve cases on record.

Purulent Infection in the Course of Suppurative Thyroiditis which had not been opened to the Air. — Oulment (*La France Méd.; Cbl. f. Chir.*, 1880, p. 767) reports the case of a woman 26 years of age who had suffered for eighteen years with a thyroidal enlargement. Whenever she menstruated she was attacked by facial erysipelas, which, however, ran a rapid and favorable course. On her admission to the hospital she complained not so much of the erysipelas as of a painful swelling of the cervical tumor, accompanied by fever and extreme prostration. In the eleven days following her admission she suffered from repeated chills, with diarrhœa, dyspnœa, and swellings in the left elbow and ankle-joint, going on until the patient gradually failed and died with symptoms of profound septic poisoning. At the autopsy, purulent collections were found in the thyroid gland, both the joints mentioned, infarctions in the kidneys, and bacteria in the blood. Oulment considers the condition of the uterus in menstruation as the predisposing cause, and cites the case of a midwife who, passing unscathed among cases of puerperal septicæmia, finally attended a case while menstruating and became the subject of purulent infection. In other cases the intestines may be regarded as the portal by which infection may enter, particularly when, as was the case in the present instance, the organism is weakened.

Action of Blisters on Sensibility.— M. Grasset gives the case of a man who was suffering from left-sided hemi-anæsthesia, said to be of six years' duration, and in whom right-sided hemi-anæsthesia had been previously and unexpectedly removed by a blister applied for pleurisy. The application of a blister over the deltoid was followed by the return of sensibility in the greater part of the limb. The restoration of sensibility did not, however, occur first in the neighborhood of the blister, but in the hand, and it extended as far as a little above the elbow, the neighborhood of the blister remaining insensitive. Another blister was then applied to the thigh, and was followed by a recovery of sensibility in the whole leg. The loss of sensation was thus reduced to the left half of the trunk, neck, and face. M. Robin found some time ago that saturnine hemi-anæsthesia could be removed by the action of jaborandi, the diaphoresis appearing to be attended with a return of sensibility. The use of the drug was also suggested to M. Grasset by a remark of his patient that he only sweated on the unaffected side. Jaborandi was used here with good effect.

New Contribution to the Therapeutic Applications of Iodoform.—Dr. Aphel (*Jour. des Sci. Méd.*, 1880, p. 612; from *Lo Spallanzani*) gives the case of a woman of 20 who had received a contusion of the right mamma, which soon became painful, while the lymphatics of the axilla also became engorged. After suffering for twenty days, the patient sought medical relief. Inunctions with a pomade of mercury and belladonna, persevered in for ten days, gave no relief. On using an ointment of iodoform, however, instantaneous relief was gained. At the end of ten days the patient was discharged cured. In a second case, that of a man who received a severe bruise on the ankle, an ointment of one part of iodoform to thirty of lard produced rapid amelioration. Prof. Masius uses the following formula: iodoform 1 part, glycerol of starch 30 parts, essence of peppermint a sufficient quantity to mask the odor.

Treatment of Dyspnœa by Salicylate of Sodium.—Salicylate of sodium is recommended in dysmenorrhœa of purely nervous origin, and also in gouty or rheumatic dysmenorrhœa. It is less efficient in other forms, but is, however, useful in these also.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, FEBRUARY 12, 1881.

EDITORIAL.

ALUMNI SOCIETIES.

IN the course of a very few weeks most of the medical colleges of the country will close their sessions with appropriate ceremonies, and among the various procedures meetings of alumni societies will no doubt be prominent. In our youthful days these societies were not; in this city, at least, they are a modern innovation, and, we think, on the whole, a good one. They were originally called into being by the various faculties as a means of extending their own influence, of creating and maintaining a spirit of unswerving loyalty to the respective institutions, and thereby filling the pockets of professors. The exact boundary of the true disinterestedness of the professors in their action is exemplified by the rapidity with which a well-known gentleman—who had been most eager in getting up an alumni society, most unsparing in his condemnation of sister-institutions, most earnest in his protestation of the superiority of his own body—left his post when offered a few more dollars annually by a rival college. The birth of these societies was not altogether noble, but the societies exist. It is time, however, for them—no longer infants in age, feeding upon the pap administered by hopeful and admiring faculties—to look about them and act for themselves. If we mistake not, it is possible that what was a nursling of soft and gentle mien may grow into a Hercules eager to labor for the right.

Viewed purely as a commercial transaction, the contract which is fulfilled when the student receives his diploma from an ordinary medical college leaves no one under obligation. The student has *paid* his fees to the professors, and received his knowledge and his right to practise, and that is the end of it. The faculty are at least under as much obligation to him as he is to them. On the other hand, institutions of learning properly endowed give more to the student than he gives directly back. The object of endowment is to furnish to the student for a hundred dollars that which costs two or more hundred,—in other words, to pay, in whole or in part, the expenses of his education. To such an institution a student owes a debt, and he is morally bound until, by direct gifts, or by interesting others more able to give than he is himself, or by enlarging the classes of his *alma mater*, he has made return for that which has been bestowed upon him.

It is plain that our medical colleges under the old system put no such obligation upon their students. Loyalty is a good quality; but a persistent, unreasoning loyalty may be a very bad thing. There still are large colleges which make no more than a hollow pretence of reform, into whose crowded rooms are gathered and out of whose crowded rooms are annually discharged into their communities large numbers of men with but a show of regard to qualification, whilst the faculties receive princely incomes for a minimum of labor. Is there ground for love by worthy men of these institutions? Perhaps so; but the love should show itself by disciplining the institutions. It is a false pride, an evil loyalty, which leads a physician to send his students to an institution which he feels is being managed not for the general good, but to fill as rapidly as possible the pockets of those who are incumbents in the various chairs and are their own managers, so far as policy and action of the institutions are concerned.

Under these circumstances, ought the alumni societies to disband? are they an evil? By no means. Association

brings power, and what each alumni society should do is to use every effort to extend and strengthen its influence,—not only to knit its membership more closely together, but also to increase its numbers until it includes, as near as may be, all living graduates, and then to employ this power. Any such body of men could force their *alma mater* into the right path of progress. If the Alumni Association of the Jefferson Medical College was so organized, and would assert itself, is it probable that the institution would remain where it now is, holding a position so well known that it is not necessary to specify it?

Again, even in such an institution as the University of Pennsylvania, where the faculty have sacrificed their pecuniary interests to the general weal, the Alumni Society ought to assert itself and leave no stone unturned until it has obtained representation in the Board of Trustees. It owes this to itself, but it owes it also to the general medical profession. When representation is gained, as we believe it readily can be, in the University Board of Trustees, other alumni societies will grow restless with a sense of want and of power; tempests will gather; and when at last medical colleges are ruled, at least in part, by medical men whose eyes are not dazzled by the gilded glitter of self-interest, the millennium will not have come, but we shall have made a step towards it.

LEADING ARTICLES.

FOOD-ADULTERATION.

MUCH attention has of late been called to the subject of food-adulteration in this country, first by the various sensational and contradictory reports of such adulteration which went the rounds of the "scientific" and popular press, and more recently by the offer of a reward for the best draft of an act to prevent the falsification of articles of food in common use, offered by the National Board of Trade.

What has been needed, and what, until quite recently, has been almost entirely wanting, has been trustworthy data upon which to found correct notions of the prevalence and degree to which the various articles of food found in commerce have been adulterated. Is our vinegar indeed sulphuric acid? are our pickles incrusted with verdigris? is our bread a mass of alum? Is coffee a euphemistic expression for a decoction of the leguminosæ of our gardens with a dash of chiccory, and the milk with which it is mingled a mess of chalk, calves' brains, and pump-water from a possibly sewage-infected well?

Fortunately, the subject has now been taken up and reported upon by competent investigators, and, although the examinations made have not been as numerous or as widely extended as could have been wished, yet enough is known to calm the fears of the apprehensive, and to indicate that for the present the American citizen may eat his meals in the peaceful consciousness that for the most part his food is what it professes to be, and that he is not being slowly poisoned by toxic chemicals insidiously mingled with his daily aliment.

Dr. Charles Smart, U.S.A., in a supplement to the *National Board of Health Bulletin*, published at the beginning of the present year, gives the results of an investigation to determine the prevalence of adulteration in food-supplies. This investigation, which was undertaken in accordance with instructions from the National Board of Health, includes the examination of seven hundred and thirteen samples. Some difficulty was experienced in collecting these, owing to want of co-operation on the part of State and municipal health boards, and to the scanty appropriation available for the purpose. Specimens were collected from two sources: first, from first-class stores and from the army commissary department, where adulterated articles were not to be looked for; and second, from sources which might be presumed to yield low-grade, if not adulterated, goods.

Of the seven hundred and thirteen examples examined, three hundred and four were obtained from sources which implied purity, as already explained, and four hundred and nine from those which might be considered suspicious. Of the former, twenty-four, or 7.89 per cent., were found to be of such a character that under a law repressive of fraudulent adulteration prose-

cution might have been instituted with full prospect of effecting conviction. Of the latter, one hundred and eighty-three, or 44.74 per cent., would have been in like manner condemned. Dr. Smart's results respecting the various articles examined are of so much interest that we append an abstract of his report.

Lard and *corn-meal* were found to be unadulterated.

Tea was indeed found to be mingled with Prussian blue and indigo, but the quantity of these drugs employed for the purpose of facing the leaves is so small as not to be deleterious. If the color hid the quality of the leaf, so that a poor tea might be passed off as a superior article, some action might be warranted; but the color can be removed easily and the leaves judged by their natural appearance. Indeed, the facing in itself constitutes a criterion of quality, it being invariably fine or coarse as the leaves are young and high-priced or old and cheap. The facing seldom adds materially to the weight. Of ninety-eight specimens taken from sources where purity was to be expected, all were found pure. Of nineteen specimens taken from sources where adulteration might be expected, five were found adulterated. One of these had an excess of lime sulphate facing, one was mixed with sand, and three were mixed with exhausted leaves.

Coffee, Dr. Smart thinks, is not apt to be extensively adulterated in this country, owing to the fact that the American housewife prefers to buy the whole berry and to grind it in the domestic machine. Mr. Hill's examination for the State Board of Health of Massachusetts showed that ten samples of ground coffee obtained in bulk were found to be pure, while seven package samples consisted of one with no coffee, two with very little, and four with 50 to 70 per cent. of coffee, the rest being roasted wheat, pease, beans, and chiccory. Dr. Smart, however, found that some loose ground coffee examined by him contained chiccory and beans. Only one sample of package "coffee" was examined. It contained chiccory, corn, wheat, and rye, but no coffee. Three extracts or essences of coffee were examined, one of which consisted of chiccory and the two others of roasted starches. Two of these bore on the label an offer of reward for proof that any other extract of coffee was as pure as they!

Sugars and *syrups* were not found to contain sand except as an accidental impurity. Of one hundred and twenty-four samples of all kinds of sugars examined by Dr. Smart, fifty-seven were microscopically clean; sixty-four contained accidental dust; three were foul and swarmed with the sugar-mite. Of late years a saccharine substance, glucose, less sweet than cane-sugar, but, so far as known, possessing all its nutritive qualities, has been manufactured from starch by boiling with sulphuric acid and afterwards removing the acid by means of lime. It has been asserted that this substance is largely used for the fraudulent adulteration of sugars. In spite of reports to the contrary by public analysts of England and the health authorities of New York, adulteration by glucose is certainly practised. Among forty-seven brown sugars furnished Dr. Smart by dealers who knew they were to be examined, three contained glucose; while among thirty-eight samples purchased for analysis, no less than nine were thus adulterated. The glucose varied from a small admixture to thirty per cent. The white sugars, powdered, granulated, etc., were free from this adulteration. The syrups, of which twenty-one were sent in for examination and twelve were purchased, were all found to be pure. No salts of tin or other unwholesome substances sometimes stated to be used by refiners were found in the specimens either of sugar or of syrups.

The results of the *flour* analyses were highly gratifying. Of fifty-eight specimens which were examined, only one contained matter foreign to the wheat-kernel, and in this case the adventitious substance was corn-meal, evidently introduced by accident. Five samples were so deficient in gluten that it was doubtful if good bread could have been made from them; but this arose, not from wilful adulteration, but from natural causes. This result is very different from that found in England, where even last year, in spite of the stringent laws, fifteen specimens in six hundred and seven were found adulterated with alum.

Bread was found by Dr. Smart to contain alum in appreciable quantity. The unwholesomeness of alum is, however, by no means universally accepted. If the alum existed in bread as alum, and was introduced into the system as such, it would, from its powerful astringent quali-

ties, interfere materially with digestion and be properly viewed as a deleterious ingredient. But it is well known to chemists that when water is added to alumed flour in the process of dough-making, a chemical change takes place whereby the alum is converted into an insoluble powder. This insoluble powder, which is generally believed to be inert, has been proved by Professor Patrick, of the University of Kansas, to be unaffected by the juices of the stomach. Alum would, therefore, appear to be harmless. But there is another view to be taken of the subject, looking to its action in the bread itself. One of the objects of its introduction is to check the process of fermentation which may be taking place in poor flour: so that the bread made therefrom is whiter and contains less dextrin and starch-sugar than if no alum had been added. So far its action is preservative and of value, but it is accomplished at the expense of the nutritive principles of the flour. Phosphoric acid, from the soluble phosphates of the grain, is precipitated along with the insoluble alumina in the bread-making process, and, what is of more consequence, the digestibility of the bread is impaired by the presence of the alumina and its phosphate. J. West-Knights, F.C.S., in a paper read before the Society of Public Analysts during the past year, records the results of digestive experiments on alumed and unalumed breads. The former left a larger residue of unsolved matter after treatment with an artificial gastric juice. Nevertheless, there are no cases on record where disorder of the digestion is unmistakably due to the use of alum. There are many declamatory and unsound passages in books concerning the unwholesomeness of alum in bread; but, impartially viewed, the evidence appears to give ground for regarding it as an adulteration which should be suppressed. As alumed baking-powders are in such general use, this subject is worthy of a thorough investigation.

Dr. Elwyn Waller, in the fourth annual report of the Health Department of the city of New York, reports upon the bread sold in that city: Of fifty-one samples, forty-one contained no adulterant, two contained copper, probably added as sulphate, six contained an excess of alumina, and two both alum and copper.

Alum, however, was the only adulteration found during the present investigation.

Bicarbonate of soda, of which only twelve specimens were examined, was found to be considerably adulterated with sulphates and chlorides. No markedly fraudulent adulterations, as with large percentages of terra alba or starch, were discovered; but it is probable that if the list of samples had been increased some notably bad specimens might have been obtained, for in twenty-eight samples reported in the third annual report of the Health Department of the city of New York, while twenty-six were of the ordinary commercial character, one contained flour, and one nearly twenty-five per cent. of terra alba.

Cream of tartar is one of the articles which is subject to gross adulteration. Of eighteen samples examined, six were of satisfactory purity, eleven contained sulphate of lime varying from seventeen to ninety per cent., three having nearly the latter figure, two contained no cream of tartar, but consisted instead, the one of sulphate of lime, alum, and acid phosphate of lime, and the other of alum, acid phosphate, and potato-starch. Considering the use of cream of tartar in baking, its impure condition is a serious evil.

Baking-powders, of which six specimens were purchased and twelve obtained from the United States commissary department, were found to differ according to their origin, the army supplies being in every case pure and the others all impure and some deleterious.

Black pepper, ground.—The examination of the ground black peppers and spices shows to what extent adulteration may be practised when its detection by the public is a matter of difficulty. The dealer himself appears to have lost the knowledge of the characters of the pure article, as, out of four samples sent in by respectable houses in Washington for the purpose of being examined, only one was pure. The others contained baked flour and rice, with sand enough to prove the unclean condition of the peppers when milled.

Of the other spices, *allspice* when ground was found to be largely mixed with bread-crusts, beans, corn-starch, woody tissues, and turmeric. Of twenty-three purchased specimens, eleven were allspice only in name. Of eleven purchased samples of ground *ginger*, six contained wheat-flour, corn-starch, rice, bran of wheat, husks of black pepper, and turmeric. Some of these

contained over five per cent. of sand. Ground *mace* was found to be almost universally adulterated, the real composition of the supposed spice being made up of corn- and wheat-flours and starches, wheat-bran, rice, beans, and turmeric. Even three samples presented for examination by first-class houses were not all pure; one was mixed with wheat-starch. Of ground *cloves*, four examples from unexceptionable sources were found to be pure, but only three of twenty purchased specimens were free of other and cheaper vegetable substances. It would appear that pure ground *cinnamon* is an unknown article of commerce. Of twenty-six samples, only one, and that supplied by the commissary department of the army, was unadulterated. Ground *cayenne pepper* is as rare an article in the market as ground cinnamon. Fortunately, red lead, which Hassall found so frequently in English samples, appears to be absent in the American article,—a good instance of the ameliorating effect of republican principles on commercial morality. *Mustard* fares no better than other spices: twenty-one adulterated specimens were found out of twenty-seven, comprising *all* those purchased in the open market. *Vinegar* was found to be adulterated only by the addition of water. No copper, lead, or other dangerous metals were found, nor any free mineral acid. Of *pickles*, only one sample was examined, which proved to be pure. Recently, Professor Bailey found copper equivalent to one-seventh of a grain of sulphate of copper in a bright-green pickled cucumber weighing two ounces. But little *confectionery* was examined, and only the yellow-colored candies were found to contain poisonous coloring-matter, the color here being due to chromate of lead.

In conclusion, we may congratulate our readers and the public that matters are no worse. Our advice to Paterfamilias is briefly as follows. Buy your flour, tea, and sugar from reputable tradesmen, and never purchase ground coffee and spices. Above all, do not, for the purpose of gaining a temporary period of peace and quiet, give your children *yellow* sour-balls to stop their little mouths. For if you do you may be obliged, later, to spend sleepless nights in the attempt to assuage the pangs of a colica pictonum, which the wiser purchase of *red* "sour-balls" colored with the harmless cochineal might have prevented.

CORRESPONDENCE.

LONDON LETTER.

THE subject which has largely engrossed my attention the last day or two is the instructiveness of the urine in cardiac dropsy in the light it throws on several aspects of the subject. Not only does it possess a high interest of its own, but it illustrates changes in the circulation in some other maladies in an instructive manner. Further, it can be shown to have a high prognostic value in wider senses than is usually appreciated, and also to carry with it useful lessons in therapeutics. We all are familiar with the aspect of the urine in advanced cardiac disease: it is scanty, light-colored, dense, and readily throws down a deposit, usually of a reddish color. As the dropsy increases, this appearance is intensified, and usually in time some albumen shows itself. Now, it may be well to consider these points *seriatim* and in order.

The bulk of urine is intimately related with the blood-pressure in the arteries. When the blood-pressure is high, the bulk of urine is large; when the blood-pressure falls, the bulk of urine is less. That is, speaking broadly and not going into minutiæ,—such as questions of obstruction in the pelvis, of the kidneys, or the ureter, and like disturbing factors, which interfere somewhat with the broad generalization,—but accepting the statement that, ordinarily, the bulk of urine is the measure of the blood-pressure in the arteries. Consequently, when the walls of the heart commence to yield, with or without mitral disease, and the left ventricle can no longer keep the arteries well filled with blood, the bulk of urine falls below the normal. Step by step, hand in hand, together, the bulk of urine falls as the cardiac contractions decline in vigor. We know that the blood-pressure in the glomeruli of the kidney determines the rate at which the water of the blood, and the matters held in solution therein, pass from the blood-vessels into the urine-tubules of the kidneys. When a draught of water is taken and the water rapidly passes from the stomach into the circulation, the blood-vessels are filled; and then rapid secretion of urine follows. If we are perspiring freely, then the water passes off by the skin, and the bulk of urine is little increased. So we may say that when the skin is freely acting the bulk of urine is small; in cold weather, when the skin is inactive, the bulk of urine is large. When the blood-pressure in the arteries is light, as it is in the early stages of the gouty heart and kidneys, then there is a free flow of urine of low specific gravity. We know that when we meet a case presenting the following features,—a tight incompressible pulse, a hypertrophic left ventricle, a loud second sound heard over the aortic valves, and a copious flow of urine of low specific gravity,—we have

before us a case of the gouty heart with cirrhosing kidneys, whether or not there be albumen in the urine. Here we have, in other words, a dilute urine. As long as the contractions of the left ventricle are vigorous, so long is the bulk of urine large; but when muscular failure sets in, then the bulk of urine falls. The bulk of urine is the outward visible sign of the inward morbid changes, and the fall tells that molecular decay is spreading throughout the muscular fibrillæ of the hypertrophied ventricle. It is, then, the herald of coming change, or rather of histological change so well established that the heart's power is being enfeebled. As the cardiac power wanes, so the bulk of urine falls, till in time the copious dilute urine has given way to a scanty concentrated urine, in fact. This tells that the features of the gouty heart in its early stages are being lost in those of cardiac failure. The change is like that of a dissolving view: it is not sudden, it is gradual. The characters of one view are lost, and those of another gradually show through them; at either extreme a clear view is to be had, but at the time when one set are disappearing, and the other beginning to show through them, there is a certain indistinctness, a certain blending of the two, which is puzzling in the extreme. So it is with a case when the features of the strong gouty heart are being merged into and ultimately lost in those of cardiac failure. In time the features are those of heart-failure, not to be distinguished by the casual observer from those of an advanced mitral disease; still, the hard arteries and the distinct aortic second sound tell of what once has been to those who are familiar with these cases. Consequently, as the artery is less and less filled by the failing ventricular systole, so the bulk of urine falls, until there comes at last the dense, scanty, high-colored, concentrated urine of cardiac dropsy. The water, instead of finding its way out by the kidney, has found its way into the areolar tissues of the body, and dropsy is established.

This diminution of the bulk of urine is, then, most significant of cardiac failure,—either temporary or permanent, as the case may be, but ultimately prominent enough in spite of everything we can do. So in fevers where there is vaso-motor dilatation, the bulk of urine is small in spite of the patient taking large quantities of fluids. As the artery slackens, the urine becomes less in bulk,—becomes, indeed, a concentrated urine. When the pyrexia passes away, then the bulk of urine is increased until a normal bulk is regained. So it is with the concentrated urine of cardiac adynamy. If we can restore the vigor of the ventricular contractions, and enable the ventricle to fill once more the arterial system fairly well, then the outward evidence of this is the increased bulk of urine. As the water once more is squeezed out into the urine-tubules, the blood takes up again the water from the areolar tissue, or, in other words, the atophy disappears. But in time the dropsy reappears, and the measures adopted for its removal prove futile; the bulk of urine is but little and only temporarily affected by the remedial measures once so successful; and then we recognize the unpleasant fact that the case is passing into its final stages. We know only too painfully well that the molecular decay, the fatty necrosis of the muscular fibrillæ of the heart-wall, is spreading throughout the substance of the heart so extensively that the vigor of its contractions is gone, never to return. The treatment is made more active; temporary improvement follows, but it is delusive. The improvement does not continue, and the case moves onward to its conclusion. Now, for the treatment of this condition of dropsy we possess two different measures, which, however, are not incompatible with each other,—indeed, which can with advantage be used together. The one is to increase the vigor of the ventricular contractions, and so to increase the outflow of water by the kidneys; and for this purpose it is well to administer digitalis or some other drug of allied character. It is well, too, to administer some strychnine along with the digitalis, especially if the breathing is embarrassed, as is often the case. The strychnine acts upon the respiratory centre and improves the respiratory efforts. The impression upon the respiration is a useful auxiliary to the action of the digitalis upon the heart, and the circulation (between the two) is greatly improved. The arteries are better filled and the bulk of urine is increased. The other measure is to drain the water out of the system by hydragogue cathartics or the hot-air baths, exciting free diaphoresis, or both. It is well to bring the heart under the influence of the digitalis for a day or two before starting either of the other measures, in order to do away practically with any risk of serious syncope under their action. These secretory measures may be continued for a week or two,—each twice a week; then each once a week for a week or two longer, if any dropsy remains. Such, then, are the measures for relieving the dropsy and improving the circulation. The relief of the venous congestion by these measures of catharsis and diaphoresis removes the venous fulness in the kidneys and allows of a freer flow of blood through them, thus aiding the action of the digitalis directly upon the arterial fulness.

The bulk of urine is the outward indication of the state of arterial fulness: the fuller the artery, the greater the bulk of urine. Now let us consider the presence of albumen in the urine. No amount of pressure within the arteries will bring about an albuminous condition in the urine,—even ligature of the aorta below the renal vessels fails to produce it,—but any obstruction to the venous outflow

from the kidneys sets it up. Consequently, the amount of albumen in the urine is the measure of the venous fulness. In some cases it shows itself early, in others only at the near approach to the termination of the case. Usually it appears when the venous engorgement is becoming considerable,—at first fitfully, then more persistingly, finally permanently. Whenever the measures adopted improve the circulation, and with it the bulk of urine, the albumen disappears, wholly or partially. When the bulk of urine again falls, the albumen reappears. As the case progresses to its final stages, the presence of albumen becomes established, and its amount steadily increases and the case grows worse. In so speaking of albuminuria here, I mean the albuminuria of venous congestion, without any reference to any albuminuria which may have been pre-existing and which is not the distinct product of venous fulness. Such albuminuria may exist and be due to other causes; but the albuminuria of venous fulness is the steadily progressive albuminuria which marks the oncome of pronounced cardiac failure, and which is never to disappear. It may be more or less at times, fluctuating with the changes in the aspect of the case, but it is essentially steadily progressive in its nature, and indicates the downward direction of the case.

About the significance and causal relationships of this form of albuminuria there can exist, unfortunately, no doubt, and its appearance is of the worst omen. It has just been said that its amount varies from time to time with the fluctuations of the case; but where its amount remains undiminished, while the aspect of the case generally is somewhat improved, it is of very bad prognostic import. Consequently, when albumen has once shown itself, it is well to test the urine regularly in cases of cardiac dropsy, as temporary improvement is by no means rare even in cases where it can only be very transient from their nature. To sum up, then: (1) the bulk of urine is the measure of arterial fulness, and rises and falls along with it; (2) albuminuria is the measure of venous fulness, and rises and falls along therewith. Now there remains the third point to be considered,—viz., the presence of lithates in the urine. The deposit, as said before, is usually of a reddish or deep pink color, such deposit being usually composed of lithates. (But urine deposits, when of paler coler, may consist largely of phosphates in some form.) For our purpose here the main matter is to recognize the fact that the deposit is composed of lithates. When albuminoid waste matter is fully oxidized it becomes urea. Uric acid is a less completely oxidized form of waste. This dense concentrated urine, then, contains an excess of imperfectly oxidized waste. This is a matter which should be more carefully thought about than is the rule.

The liver has three functions: (1) the stowing up of glycogen (animal starch) from the grape-sugar in the portal vein; (2) the oxidation of waste and spare albuminoids; and (3) the production of bile. Beyond this the liver is intimately associated with the digestion of albuminoids,—though how we do not yet precisely know. It is with the second function of the liver we are chiefly concerned in this matter of the deposit of lithates in the urine. In cardiac failure, no matter whether the failure be due to primary mitral disease or to the decay of once hypertrophied heart-walls, the liver is gorged with venous blood. Indeed, not uncommonly the liver can be felt to pulsate with the impact of blood flowing backward through the tricuspid valves on the systole of the distended right ventricle. So gorged with venous blood, the liver is crippled functionally and cannot perform its work properly; consequently, we find imperfectly oxidized albuminoid waste in the urine. Not only that, but it exists in excess in the blood. Now, we know that when there exists an excess of nitrogenized waste in the blood, the flow through the arterioles is obstructed; such obstruction adds to the work of the heart, to the resistance the ventricle has to overcome on each systole. Consequently, to depurate the blood is to reduce the work of the heart. So relieved, the left ventricle will often regain much of its power. How, then, are we to depurate the blood? By remembering the functions of the liver! It plays an important part in the digestion of albuminoid matters, as well as oxidizing nitrogenized waste.

Now, it is well to bear in mind vividly and distinctly that when the assimilative organs are gorged with venous blood, their functional capacity is impaired, and it becomes necessary to administer easily digested food. To improve the tissues of the weakened heart is a most desirable object, but it is not obtained by cramming the patient with meat or its derivatives. The patient may be induced to swallow a quantity of meat, but it does not follow that this will improve the nutrition of the tissues. For interstitial nutrition good digestion is essential. Consequently, a meal of fish or a draught of milk, a portion of which is thoroughly and completely digested, will furnish more tissue-nutrition than a meal of beefsteak or mutton-chop no portion of which is completely digested. Further, the partially and imperfectly digested meat furnishes a large quantity of nitrogenized waste which has to be got rid of. Therefore, cruel as it may seem, mistaken, even, to the casual observer, such patients will do much better on a restricted dietary than on a liberal one. A series of most interesting and instructive cases has recently taught me the above lesson with unmistakable clearness. Some of them had previously been under men of the highest position in the profession: digitalis and iron had failed, even when accompanied by a generous dietary.

(Iron never is well assimilated when the liver is embarrassed.) But on a restricted dietary and appropriate measures they did admirably. In a number of instances there was decided enlargement of the liver; in several there was dropsy. So, keeping the lessons of physiology well in view, the dietary was made largely non-albuminous, fish and milk alone being allowed, with stewed fruit and cream- or milk-pudding. That was the first point,—viz., to reduce to a minimum the demand upon the liver. Then, to depurate the blood and relieve the liver of waste matter, a calomel- and- colocynth pill was given twice a week at bedtime; and next morning a draught of sulphate of soda with Rochelle salt in a warm infusion of gentian, containing some tincture of ginger as a carminative. This unloaded the liver and depurated the blood, with the result that the liver became markedly reduced in size. Digitalis was given also to increase the vigor of the ventricular contractions, and so to pump over more effectually the blood from the veins into the arteries. Betwixt the two the liver became not only reduced in bulk, but it recovered much of its functional power, and assimilation was more perfect. The heart recovered much of its tone, being once more fairly nourished; and, in broad terms, the cases did well and gained me no little *kudos*. In one of the cases, a very well marked one, the medical man's last report speaks of "a most marvellous recovery;" and certainly the case did admirably under this line of treatment adopted by me, first the liver being reduced in size and becoming functionally more efficient, and secondly the heart recovering its tone. Yet under digitalis and iron the case had made no progress for seven months under the charge of one of our most illustrious and able physicians. The amount of lithates, then, points to enfeeblement of the liver in its assimilative and oxidizing capacity, and their presence tells us that the dietary must be strictly regulated.

After this exposition, I venture to think, the reader will agree with me in thinking that the changes in the urine in cardiac dropsy contain a lesson of incalculable value if we will only take the trouble to learn it thoroughly. It is by this systematic survey and approach of a case remedially, both dietetically and therapeutically, that success is to be attained. Pains, infinite pains, much acquired knowledge, much individual thought and intellectual digestion of the required data, are essential to the successful treatment of such cases. But the attendant success is ample reward for all the pains taken: of that the reader may rest assured. J. MILNER FOTHERGILL.

THE death of Professor Julius Vogel, in his sixty-seventh year, is announced. He is chiefly famous for his work on the "Chemistry of the Urine."

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

AT a conversational meeting held at the Hall of the College of Physicians, Philadelphia, December 8, 1880, Dr. John H. Packard, Vice-President of the Society, in the chair, Dr. William Pepper presented a communication (see page 295) on the "Treatment of Typhoid Fever," for which he received a vote of thanks from the Society.

DISCUSSION.

Dr. Bruen remarked that he would like to mention, in connection with the subject of diet, that the various preparations of the Health Food Company make delightful and highly-nourishing gruels for the convalescent: they may be combined with milk or given without, forming admirable substitutes for milk in many cases where milk alone disagrees with the patient.

Dr. J. M. Keating suggested the use of "albumen-water" when milk could not be obtained or was contra-indicated, as it often was. The whites of one or more eggs are dissolved in a pint or so of water, and then sweetened with glycerin and flavored with *orange-flower* water, or to suit the taste of the patient; this is given *ad libitum*, and given cold. He had seen this preparation retained when milk and beef-tea were not tolerated; it had saved a patient's life in a bad case of typhoid dysentery, and in a case that came under his care lately it was the only thing that was tolerated by a child of two years for almost two weeks. It is largely used in France; but no mention of it is to be found in any report of the treatment of typhoid fever in any of our journals or text-books.

Dr. George Hamilton said that he could not quite agree with the conclusions of the paper of the evening. He was obliged to differ with the lecturer in regard to his method of treatment, yet he could not claim to have been successful in ninety-eight per cent. of cases of typhoid fever.

He had never, in the first place, insisted upon such perfect quietude: where the patients had considerable strength he did not forbid them to use the commode, or hinder them from getting out of bed to empty the bladder and the bowels, and he had never seen any bad results attributable to this. As regards the diet, typhoid fever commences to weaken the patient from the very outset, and where the patient has an appetite for food he was inclined to listen to the voice of nature and give light nourishing food, and not so restricted as the lecturer had recommended. He would give pure, undiluted milk or well-spiced beef-tea under ordinary circumstances. He had noticed a great contrast between the practice of different physi-

cians in this disease as regards stimulants. He would in the latter prostrate stages of the disease use them, and incur some risk of future fondness for them, rather than deprive patients of their benefit when evidently needed.

Dr. Condie, a noted temperance man, often remarked that he could not get along without stimulants in certain cases of typhoid. He nearly always found turpentine emulsion useful in the latter period of the complaint, and, with laudanum, as an injection, in looseness of the bowels answers very well.

Much depends in typhoid fever upon the nursing and attention to the general treatment. Many cases will doubtless go through without any particular medication, but if at all protracted the patients become very weak, so that nourishment, as much as the patient can well take, with stimulants, is of great importance. The tendency always to prostration must be checked if possible.

The utmost attention should be given to hygiene, especially ventilation. All objects that annoy the patient should be removed from the room, especially when the patient is in a low, rambling condition; no disturbing visitors; the patient often hangs between life and death, and the slightest untoward incident may turn the scale against him.

In regard to slight hemorrhages from the bowels, he had seen them productive of benefit, but if profuse or repeated they are apt to carry off the patient. He mentioned a case where, after a large bloody evacuation, the patient had a second hemorrhage which was retained in the intestine, but proved fatal. He believed that no rule of treatment (except that of supporting the strength) could be laid down: each case must be studied by itself and so treated.

Dr. Henry H. Smith said that the treatment of typhoid by nitrate of silver had been highly praised by the late Dr. J. K. Mitchell when Professor at the Jefferson Medical College, many years ago. It fell out of use, probably because experience did not show it to have any special value.

The speaker dissented from the paper in several points, but objected particularly to the diet as laid down by the lecturer, as being too reducing.

Dr. O'Hara said that the three last cases of typhoid he had in children, although alarmingly ill as to high temperature and progressive exhaustion, partook of very little nourishment, or medicine either, and seemed to pursue a regular course, and within three to four weeks were in a state of convalescence. He had frequently seen temperatures of 105° which seemed to burn out the poison, along with the tissue-elements of the body, and he thought from his experience that alcoholic stimulants, as wine-whey or milk-punch, acted directly as refrigerants as well as nutrients. He thought that there was too much fear of the high temperatures, as in severe cases it was a part of nature's plan of getting rid of the disease. It is a self-limited disease, and we must aid nature by treating symptoms as complications; but he did not find, ordinarily, that the bowels were locally affected so much as Dr. Pepper had stated, or that he could find relief from treatment especially directed to the glandular structure of the bowels. It was not uncommon to have no irritation of the bowels, no looseness, but constipation from paralysis of the bowels, and laxatives were required through the course of the disease. He considered the worst type of the disease when the nervous system was overwhelmed from the start with the poisoned blood, the result of the zymosis. These cases afterwards gave us enteric symptoms, and he fancied that the diarrhœal condition, within limits, as well as the high temperature, was one of the manifestations essential to nature's plan of getting rid of the poisoned condition of the blood.

He believed that the worst cases were septic in their nature from the beginning, and not due to any local condition of the alimentary canal.

He thought that the want of assimilative power to digest milk was at fault when it disagreed, and that as much casein was there, diluted, as before. He thought wine-whey suitable at any time in a case of any severity, and he believd many cases would recover without any special treatment.

Dr. W. R. D. Blackwood said that he recalled a paper read some time ago which was based on the idea that a good many people are starved to death in typhoid fever, and advocated giving good food, beefsteaks, etc. That paper certainly was in contrast with the paper of the evening, showing that doctors disagree. During the early years of the war he had seen much typhoid, in Virginia, among the soldiers on the Chickahominy, and had fault found with him because some of his patients were limited to ten grains of quinine daily and received no stimulant; the custom among surgeons generally was to give a pint—and in many cases a quart—of whisky during the day. The mortality was large, and he attributed it to this abuse of stimulants.

He could not see how alcohol or immense doses of quinine could have an antipyretic effect; he had never been able to observe it in practice. Early in the campaign he had been instructed that typhoid was a mixed disease, but even on the Chickahominy it presented the same features as the typhoid met with everywhere else: the so-called typho-malaria was a myth. Moreover, he was satisfied that large doses of quinine do harm, and that opium, likewise, does harm through aggravation of brain-symptoms, when present, and he uses, therefore, hyoscyamus, or the bromides, in preference.

Diarrhœa is often kept up by curdled milk,—milk being a very concentrated food,—and it is often given without due regard to the patient's condition. In preference to mere dilution, which does not at all alter the proportion of casein, he would give wine-whey, using astringent wines where there was much tendency to diarrhœa. In septic cases he uses carbolic acid freely from the start, but had also obtained good results from salicylic acid.

He was satisfied that in fully eighty per cent. of the cases he had seen, the less medicine given the better for the patient. In many cases he uses literally no medicine, or simply a placebo, merely watching for symptoms or complications. For the diarrhœa he uses gallic and carbolic acids.

Sponging the entire body with lukewarm water is not only pleasant to the patient, but exceedingly efficacious in high temperature; but the cold bath and pack he was certain had done more harm than good, if cases were only honestly reported. He has little faith in quinine in this disease, and less in alcohol. Maltine, when there is not much tendency to diarrhœa, and the Health Food Company's preparations, are very useful. He recommended that less attention should be paid to the therapeutics and more to the diet.

Dr. Charles K. Mills said that of course the early recognition of typhoid fever had, or might have, an important practical bearing on its treatment. He was led to make this remark because he had recently seen cases of typhoid fever beginning with remarkable nervous phenomena. In one case the patient was a lady of middle age, who had for several weeks nursed a child sick with typhoid fever. She was suddenly taken down with what an alienist would probably have pronounced to be acute dementia. She would not speak, refused food entirely, and at times exhibited great excitement. She had some fever, with irregular temperature. At the end of a week the case settled down into one of typhoid fever, with the temperature record and other special manifestations. In a second case mental aberration and tetanoid symptoms were at first present. Four days after the appearance of these symptoms, however, a typhoid rash—the most abundant he had ever seen—appeared, and henceforth the disease took the usual course of the fever. A third patient had been treated by an irregular practitioner for cerebro-spinal meningitis, probably because of the presence of some spasm, or apparent spasm, of the muscles of the neck and back. He found the rash and other evidences of typhoid. The first two cases terminated favorably; the third died. All of these cases were treated at first with remedies not usually considered advisable in typhoid fever, such as chloral, the bromides, and local depletion.

Dr. Geo. B. H. Swayze said that for nearly twenty years he had been in the habit of using nitrate of silver in the treatment of typhoid fever whenever there was any considerable enteric irritation. He had attended the last course of lectures delivered by Prof. J. K. Mitchell at the Jefferson Medical College, and had never forgotten the emphasis with which Prof. Mitchell endeavored to impress on the minds of the class the value of nitrate of silver in many cases of typhoid fever. In cases where the intestinal irritation was severe, with marked tenderness and pain and persistent evacuations, Dr. Swayze had found no treatment so satisfactory as the use of nitrate of silver. In such cases he employed it in powder, finely rubbed with subnitrate of bismuth and opium,—from one-sixth to one-fourth of a grain of nitrate of silver to one-half or one grain of opium (according to the degree of pain), and about five grains of subnitrate of bismuth, for each dose, repeated three or four times a day, if necessary. If the patient could not take powders, he employed it in solution, in combination with deodorized tincture of opium. He does not now recollect losing more than three or four cases of typhoid fever in an experience of twenty years. He would recite the case of a lady, eighty-six years old, who had just recovered from a remarkably severe attack of typhoid fever, attended with distressing irritation of the bowels, the discharges proving unusually persistent, often numbering from nine to fifteen movements per day, and many also during the night. Astringents had no effect in relieving her until he used the nitrate of silver. Some years ago, typhoid fever entered his own family; his three sons were ill with it, two at the same time. They were ordered liberal doses of quinine at the outset, but grew steadily worse, until it became evident they had typhoid. The symptoms of the oldest boy became extremely grave. Febrifuges seemed useless, and appeared only to aggravate the diarrhœa. The epistaxis was distressing, the alvine evacuations were frequent, and often so sudden that the bedding had to be changed. For several days he lay with his knees drawn up, in consequence of intestinal soreness and tympanites. His feet became cold and purple. The physician who occasionally saw him thought he must die. In his perplexity Dr. Swayze recalled Prof. Mitchell's treatment of nitrate of silver, combined it with the bismuth and opium, and in twenty-four hours the case was better. The feet were kept warm with hot bricks, turpentine was freely applied upon the abdomen; he began to take nourishment; with the relief of the bowels the gravity of the other symptoms rapidly abated, a liberal use of whisky was allowed, and any nutritious food he could be induced to take was given. The result was that he recovered, and his father believes his life was saved through the remedial agencies of nitrate of silver, liberal stimulation, and nutritious food.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, DECEMBER 13, 1880.

THE PRESIDENT, Dr. S. W. GROSS, in the chair.

Case of phthisis and tuberculosis—Enormous cavity—Physical signs of pneumothorax. Presented by DR. J. H. MUSSER.

W. M., æt. 25, admitted to University Hospital, September 13, 1880; native and resident of Philadelphia; ornamental japanner; spree occasionally; used considerable tobacco; had gonorrhœa; thinks his "breakdown" due to venereal excess in youth; single; a brother living; two sisters died when children; mother living; all his brothers and sisters died of consumption; history of father's family not known; always healthy; present trouble dates back fifteen months; subject always to a slight winter cough. In July, 1879, was overheated; cooled suddenly, causing a chill, followed by a pain in the head and breast, and a cough with frothy expectoration; no blood. In two weeks, on account of cough, pain in the left lung, and debility, had to quit work; soon resumed work, and in a short time lost appetite; had fever and night-sweats; cough grew worse, expectoration more purulent; became weaker and weaker; worked all winter, but in March had to give up; never went to bed until he entered hospital; all spring was very weak; throughout summer, with the cough and hectic, had diarrhœa; two or three passages a day, without pain, not fetid, sometimes dark, again green; late in summer indigestion and vomiting ensued.

When admitted, was very feeble and very much emaciated; pale, anæmic face, brown hair, blue eyes, not long lashes; pearly sclerotics and pale conjunctivæ; countenance of anguish; skin moist, fingers slightly clubbed; fever and night-sweats; appetite poor, capricious; tongue slightly coated all over, not flabby; weight and fulness after meals, flatulence, poor digestion; bowels constipated; hemorrhoids; at intervals slight abdominal pains; liver extends one inch below ribs; spleen not enlarged; very slight expansion of left lung; vocal fremitus absent anteriorly and laterally; at base slightly increased, anteriorly and posteriorly amphoric voice, at the base increased vocal resonance; on percussion, upper lobe tympanitic; lower lobe, in front, at the side, and behind, dulness; upper lobe on auscultation pure amphoric breathing; absent respiratory murmur; a few crackling râles on inspiration, heard over lower lobe; right lung at apex and base expanding very much; vocal fremitus normal at apex and lessened at base; vocal resonance the same.

Vesiculo-tympanitic percussion-note. At apex, front and back, prolonged expiration, harsh respiration, and a few mucous râles; puerile respiration over remainder of lung. Apex of heart in sixth interspace, one and one-half inches inside of nipple-line; impulse feeble; valvular element of first sound distinct; pulse rapid, feeble, compressible; urine normal.

From date of above note to October 17, strength failed more and more. The physical signs continued about the same. At times there were more râles at the right apex than at other times. The chest-pains increased, the right abdominal pains continued, the cough became more harassing, the hectic increased, the pulse was very rapid. On the 17th he complained of pain in the right side, and apparently friction râles were heard; the expectoration was streaked with blood. The morning of the 20th hemorrhage began, continuing an hour. During that time a pint and a half of bright arterial blood was raised, in mouthfuls, without effort. On auscultation, large bubbling râles were heard at the base of the lung; amphoric breathing and metallic râles over the cavity; very weak, pulse 134, hurried shallow breathing.

October 20.—Since last note, has been expectorating currant-jelly clots at intervals; cough very severe; diarrhœa; feels easier. At 11.30 A.M., after above note, suddenly, without cause, profuse discharge of blood from mouth and nose; death in about five minutes.

Post-mortem.—Examination four hours after death, by Dr. W. E. Hughes.

Skin yellowish. Epidermis scaling off in large flakes on the abdomen. Body much emaciated. No *rigor mortis*. Nostrils and mouth contained clots of blood.

On section, tissues dry and pale, very little blood exuding from the cut surface. Scarcely any fat. Muscles pale red.

Thorax.—Pericardium contained half an ounce of straw-colored fluid. Heart normal size, muscle not fatty to the naked eye. Right ventricle and auricle contained a chicken-fat clot. All the valves stood the hydrostatic test. The aortic valves were thickened slightly, as were also the mitral leaflets. In the latter were a few small calcareous deposits.

At the apex of the right lung a few pleural adhesions. Entire visceral and parietal layers of the left pleura firmly united and thickened, save in the lateral region. In this area, over the lower lobe, a sac was formed an inch deep, three inches wide, and four inches longitudinally, containing a few ounces of fluid with some lymph. The upper lobe of the right lung was partially solidified. On section, two small cavities, the largest an inch in diameter, both filled with a gray grumous fluid, occupied the centre of the solidification. The consolidated portion was of a gray color, with numerous small cheesy points in it. In the lower lobe there were numerous small masses of tubercle. Remainder of lung emphysematous. The vesicular tissue of the upper lobe of the left lung was entirely destroyed. The

walls of the cavity were formed of the thickened pleura, while across it extended thickened cords and bands containing the remains of obliterated vessels and bronchi. Numerous stumps projected from the sides of the cavity, and on its walls were studded small cheesy masses. The cavity was filled with blood and some puriform matter. The lower lobe was consolidated. Numerous cheesy masses and a few cavities were found in the gray consolidation. The bleeding-point of the hemorrhage was in one of these cavities. The edges of the lower lobe were lobulated, apparently congenital.

Abdominal cavity.—It contained a pint and a half of straw-colored fluid. Intestines presented externally, at varying intervals, dark-red blotches. Liver weighed four and a half pounds; pale and fatty, slightly cirrhotic at lower edges. Gall-bladder contained a little bile. Spleen weighed twelve ounces; was soft; dark red in color. Kidneys weighed ten ounces each. They were fatty; capsule not adherent. Stomach at largest part only one and a half inches in diameter. Rugæ very prominent. Mucous membrane very pale. A small circular ulcer with raised indurated edges in the duodenum, four inches from the pylorus. Two similar ulcers in the jejunum. All the upper Peyer's patches ulcerated, only very slightly, as if just beginning; some of the patches had two or three transverse excavations. The lower patches were elevated and rough, as if tubercle had just developed. In the cæcum numerous small ulcers similar to those in the intestine. Less numerous in the ascending and absent in the transverse colon. Mesenteric glands not enlarged.

Brain healthy. Slight increase of arachnoid fluid.

On account of the physical signs presented during life, the mode of death, and the extensive cavity found after death, the case is of interest. The physical signs of consolidation and cavity of the right lung were masked by the compensatory emphysema. The signs of the cavity of the left lung were so like those of pneumothorax that its occurrence was considered.

Death from hemorrhage is rare in phthisis. It is of interest to note that the bleeding did not take place in the large cavity, but from a vessel in one of the small cavities in the lower lobe.

Soft fibroma of uterus. Exhibited by Dr. H. F. Formad.

I obtained this specimen and the history of the case through the kindness of Dr. S. A. S. Jessop, of the Philadelphia Hospital, from a case in his private practice in Armstrong County, Pennsylvania.

Mrs. A. C., aged 30, has been confined nine times; only one child living; the rest were either still-born or died during delivery. Owing to a malformation of the pelvis, forceps were always used.

In the summer of 1880 she was last delivered of a still-born child. After the removal of the placenta the doctor made an examination, and discovered a tumor attached loosely to the mucous membrane of the uterus, which by gentle traction was easily removed. Hemorrhage was profuse; the contraction of the uterus did not take place for hours, and then only after administration of enormous doses of ergot.

The patient subsequently recovered and regained perfect health.

The tumor was lobulated, had a distinct capsule, and measured about six inches in its largest diameter; in some parts it was deep red in color, and was of elastic, moderately hard consistence.

Microscopic examination showed the tumor to be made up exclusively of areolar connective tissue, with large areas infiltrated with blood. Portions of the growth not infiltrated with blood showed a beautiful mesh-work formed by stellate cells, densely packed in some places, in others forming a loose mesh-work with prominent nuclei at the nodal points. Bands of fibrillar tissue were scarce, forming in places a concentric arrangement around blood-vessels. These appearances lead to the diagnosis of a *true soft fibroma.*

Hairy papilloma of conjunctiva. Presented by Dr. H. C. Boenning.

This eye was presented to me four weeks ago by a butcher, who regarded it as a great curiosity. While purchasing cattle at the drove-yard, the attention of the gentleman referred to was called to a strange appearance of the right eye of a steer a short distance from the beeves he had selected. Upon closer examination, a hairy tumor was seen protruding through the palpebral fissure. The growth was carefully examined by the cattle-dealers and butchers present, who annually see many thousands of cattle, and all concurred that they had never seen anything of the kind before. The animal was purchased, killed, and the eye brought to me, the gentleman stating that, though the growth was touched with a skewer while the animal was still on the hoof, it did not seem to possess any sensibility, the animal remaining motionless. The hand was also waved to the right of the beast below the level of the eyes without any recognition on the part of the steer; the same motions, when brought within the limits of vision, occasioned turning of the head and an effort to evade the threatened blow. The fresh specimen presented the following appearances. Over the lower, outer portion of the cornea, extending slightly upon the sclerotic, was an ovoid, reddish growth covered with hair of the same color. The growth occupied an area of about a silver dime, was firm in feel, and creaked when cut. It extended from near the centre of the cornea to a few lines beyond the insertion of the cornea, was about seven lines in di-

ameter, and encircled by a groove of, probably, retracted tissue, this separating a rim of tissue identical with the rest of the morbid structure. A vertical section demonstrated to the naked eye its conjunctival origin. The tumor did not infringe upon the cornea or sclerotic proper. At least one hundred hairs grew from the tumor; some of them were seven lines in length, the remainder varying from three to five lines in length. Section of the fresh specimen showed a moderate amount of epithelium, the rete poorly developed and the papillæ small, though larger, I think, than shown in the sections kindly made by Dr. Longstreth this morning after about one month's maceration in alcohol. The subpapillary layers were composed of dense fibrous tissue containing numerous hair-follicles, each containing a non-medullated hair. Numerous sebaceous follicles existed, their ducts emptying both on the surface of the growth and into the follicles. No nerves were visible. This tumor was doubtless congenital. The histogenesis is interesting. The conjunctiva overlying the cornea is without papillæ; hence the impossibility of such a growth containing some of the elements of true skin developing after birth. I might mention that no attachments existed between the tumor and the eyelids.

REVIEWS AND BOOK NOTICES.

How to Use the Forceps. With an Introductory Account of the Female Pelvis and of the Mechanism of Delivery. By Henry G. Landis, A.M., M.D., Professor of Obstetrics and Diseases of Women and Children in Starling Medical College. New York, E. B. Treat, 1880. 12mo, pp. 168.

One would suppose that in such a monogram special mention would be made of those instruments meeting with most favor from the profession; but the entire subject is dismissed in a very summary manner by the author saying that he prefers the Davis forceps, and for reasons, it may be said, not very conclusive, although the value of that instrument ought not to be underrated. The claims of the Hodge and Simpson forceps, so generally used in this country and in Europe, are not even alluded to.

Of the straight forceps he says, "I say nothing, because it is nearly obsolete, and every text-book bears witness against it." There are some eminent teachers of obstetrics, here and abroad, who still carry and use it, as well as the double-curved forceps, and the author should be aware of the fact that it is very extensively used in Great Britain and Ireland, and that the text-books of that very respectable quarter of the medical world are unanimous in according to it all that its friends claim for it.

In his directions for applying the instrument he is no less dogmatic than in asserting the claims of the Davis forceps. He says that the blades should and can be applied in the bi-parietal diameter *at the superior strait*, ignoring the fact which he mentions on page 112, that Dewees, Meigs, and Hodge "admitted exceptions," and that Dr. Davis himself, whose forceps he uses, "was sometimes unable to introduce the second blade of his forceps upon the right side of the head." Dr. Meigs always preferred the same instrument, but says that in some instances the application of the second blade "is found to be difficult, dangerous, or impossible." The author says, "I utterly deny even the difficulty of application in the normal pelvis." He evidently fails to see that he is attacking an opinion now obsolete,—viz., that the forceps is to be applied with *exclusive* reference to the *sides of the pelvis;* hence, in the heat of his argument he asserts that it should and *can* be applied strictly to the sides of the head only.

The author says that "pushing, not pulling, is the first step in traction," recognizing here the principle invoked in the Tarnier forceps, which he characterizes as "an unnecessarily ingenious contrivance." He advises pressure on the blades between the lock and the extremity, so as to push the head toward the outlet, the hand making the pressure being a fulcrum and centre around which the blades revolve. The diagram on page 125, which is said to represent "the forceps applied to the head at the inlet," indicates a very unusual position,—viz., occipito-pubic.

Speaking of compression, he says "the bi-parietal diameter is capable of being diminished by their use [the forceps] from a half-inch to an inch." He does not explain how the Davis forceps, which he uses, can produce a compression of one inch. The distance between the blades of that instrument is two and seven-eighths inches, between which and three and one-half inches, the bi-parietal diameter, is a difference of only five-eighths of an inch.

The author unqualifiedly condemns all leverage or oscillatory movement, but attempts little argument, leaving almost the entire *onus probandi* with Matthews Duncan and Albert Smith. Here he does Robert Barnes the injustice of saying that he recommends leverage "without traction." His assertion on page 93, that "any use of the forceps which implies leverage upon the sides of the obstetric canal is unscientific, dangerous, and criminal," is certainly vigorous enough to express his meaning. Certain it is that very many gentlemen make leverage movements who are considered by the mass of the profession to be *scientific, safe*, and the very reverse of *criminal*. G. W. L.

A Practical Treatise on Diseases of the Skin. By Louis A. Duhring, M.D., Professor of Diseases of the Skin in the Hospital of the University of Pennsylvania, etc. Second Edition, Revised and Enlarged. Philadelphia, J. B. Lippincott & Co., 1881. Octavo, pp. 644.

The first edition of Professor Duhring's treatise has been out of print for nearly a year, during which time its author has been engaged actively in the preparation of the present revised and enlarged one. At the time of its first issue the work was the best, take it all in all, which had up to that time been brought out on the subject of which it treated. The minute and painstaking care with which it was elaborated, and the equal balancing of one subject with another so that each should have its due share of attention and treatment, gave it a unity of finish deserving the highest praise; and the clearness and beauty of its style, the lucid definitions, the ample yet simple details of treatment, and the pains with which all the rubbish and lumber of the older dermatology were swept aside and consigned to oblivion without the loss of any essential fact or observation, showed the hand of the master. We do not hesitate to say that the first edition of Professor Duhring's treatise was an "epoch-making" work, and that since it appeared the study of dermatology has ceased to be the bugbear which it once was, and that both the teaching and the study of this interesting and important branch of medical science have proceeded on a more satisfactory basis than could before have been thought possible.

Most writers would have rested satisfied with this, and in a second edition, coming so soon after the first, would have contented themselves with putting in a little padding here and there and writing a fresh preface. A careful examination of the work before us and a comparison with the first edition show that the course pursued by Professor Duhring has been very different from this. From the preface we learn that entirely new articles have been written on many subjects, while others of importance which were treated of in the first edition have been largely rewritten and added to in this. The fact is, however, that almost every page in the entire book has been revised, retouched, and improved, in accordance with the constantly changing and enlarging area of our knowledge of the various diseases of the skin. Extensive additions have been made, especially in the subject of treatment, and this has been brought up fully to the level of the most advanced practical stand-point of to-day. The last five years have comprised a period of great activity among the dermatologists of this country, and it may, perhaps, be asserted that, outside of the region of mere pathological and microscopical research, more has been done here than in any other country during this period. This fact finds ample acknowledgment in the pages of Professor Duhring's book, and it is a true exponent of the American dermatology of to-day. This brings us to a pleasing feature of the work, with the mention of which we must close this necessarily brief notice.

No one who has done good work in dermatology is slighted. With judicial fairness Professor Duhring sees something good in each contribution to knowledge, and does not exalt his own work or that of his friends at the expense of ignoring that of outsiders. This cordial recognition of others is everywhere observable.

In conclusion, let us say that the book is *totus, teres atque rotundus*,—complete, well rounded, thoroughly elaborated,—a work of which the profession of this city and country may be proud. V. H.

Food for the Invalid, the Convalescent, the Dyspeptic, and the Gouty. By J. Milner Fothergill, M.D., and H. C. Wood, M.D. New York, Macmillan & Co., 1881.

The conception of this little book originated with the well-known London correspondent of the *Philadelphia Medical Times*, but, as it seemed best that it should represent the resources of the American as well as of the English "sick kitchen," Dr. Wood was associated in its preparation. The somewhat lengthy introduction is a concise, very practical dissertation on diet, whose style seems to us so like that of Dr. Fothergill that we opine he wrote most of it. Moreover, we cannot find any patches: if put in at all, the sewing is very neat and the patch well matched.

The body of the book is occupied by a large number of receipts, all of which have been carefully tested, and which in their variety afford a wide range of diet. Some of them—*i.e.*, goose-pudding—are rather strong for a sick stomach less capacious and well trained when in health than is that which ministers to the two hundred and eighty pounds of its genial North-of-England endorser. These three hundred receipts afford, however, an abundance of delicate dishes, and, as Dr. Fothergill suggests, the book may be useful to the physician who marks with pencil upon its pages such food as he thinks the individual patient owning the book may with safety use.

Medical and Surgical Electricity. By George M. Beard, A.M., M.D., and A. D. Rockwell, A.M., M.D. Third Edition, Revised by A. D. Rockwell, M.D. New York, William Wood & Co., 1881.

This edition preserves in all respects the peculiarities of the earlier ones. The book has been chiefly modified in those chapters treating on Diseases of Women, The Sequelæ

of Acute Diseases, Exophthalmic Goitre, and Electricity in Diagnosis.

We see no reason to modify the opinion expressed about it six years ago.

ON CERTAIN CONDITIONS OF NERVOUS DERANGEMENT, SOMNAMBULENCE, HYPNOTISM, HYSTERIA, etc. By WILLIAM A. HAMMOND, M.D. New York, G. P. Putnam's Sons.

This book is practically a second edition of Dr. Hammond's popular treatise upon hysteria, some time since out of print. It belongs to the growing class of "pot-boilers,"—*i.e.*, medical treatises written for the laity for very practical purposes. The chapter on hypnotism, we believe, is an addition.

GLEANINGS FROM EXCHANGES.

TRANSFUSION FOR PERNICIOUS ANÆMIA—TYPHOID FEVER AS A SEQUELA IN PATIENT AND DONOR.—Dr. Charles Cary (*Buffalo Med. and Surg. Jour.*, January, 1881) reports the case of a widow of 22 admitted to the hospital under his care with marked anæmia. The tissues were firm and natural, and the body well rounded. The patient complained of dizziness on standing, and of frequent and severe epistaxis. On admission the patient had a slight chilliness in the morning, with a temperature of 102° F. in the evening. There was some leucorrhœa, with pain in the left iliac fossa, but not enough uterine disease was discovered to account for the intense anæmia. The patient was placed upon a ferruginous tonic with an abundance of food, but in spite of a good appetite failed rapidly, at the end of about two weeks being nearly dead; pulse 117, hardly appreciable; temperature 101°; involuntary micturition and marked cerebral failure. The patient was utterly blanched; not even a minute vessel could be discovered in the conjunctiva. Under these circumstances transfusion was decided upon.

The operation was conducted in the following manner. The patient's left median basilic vein was exposed by dissection, and Moore's transfusion canula was inserted and allowed to remain, being held in place by rubber bands passed around the arm. The donor's left median basilic vein was then exposed and raised, a band having been placed around the arm to produce venous engorgement. Up to this point matters were conducted slowly, for there was not a drop of blood drawn, and no special pain was experienced by the patient. Everything now being in readiness, Dieulafoy's aspirator was used, being submerged in water to prevent the ingress of air, which was perhaps an unnecessary precaution. An incision was then made in the vein of the donor, and a blunt canula the full size of the vein introduced; the aspirator was thus readily filled with rich blood; its action was then reversed, but the tube from it was not connected with the canula in the recipient's arm until the blood flowed from it. Immediately upon the appearance of blood at the distal end of the tube it was connected with the canula already *in situ*, and the blood injected into the recipient's veins. The quantity thus introduced was ℥ij.

The immediate effect upon the patient of this small quantity of blood was most surprising: she felt a warm sensation, a tremor passed over her, she gave a slight convulsive movement, her face flushed perceptibly, and the operation was completed, occupying twenty seconds from the time the donor's vein was opened to the withdrawing of the bayonet trocar of Moore's canula. Two hours after the operation the patient experienced what generally follows the transfusion of blood after prolonged exsanguinity,—viz., a chill, followed by a fever which reached 103.5°.

From this time the patient's convalescence was rapid. She was troubled for a time with deep-seated and violent pain in the hepatic region, the nature of which was not determined. After the patient had been up three weeks and four days from the operation, and when she was almost ready to be discharged, she was seized with general malaise, followed by typhoid fever, running about thirty days, with a morning temperature of about 102.5° and evening temperature of 104° to (on two occasions) 105°. The anæmia did not return even during the fever. A very curious fact was that the donor was also seized with typhoid fever on the same day as the patient, the disease running about the same course.

TRANSFUSION WITH ANTISEPTIC PRECAUTIONS.—Dr. MacEwen (*London Lancet; Buffalo Med. and Surg. Jour.*, December, 1880) gives the case of a man who had lost much blood after an operation for lithotomy, and in whom transfusion was performed as follows. The patient's arm was held well up, so as to empty it of any blood which it might contain. It was also maintained considerably above the level of the patient's body, for three reasons: first, to facilitate the flow of the transfused blood into the trunk; secondly, to prevent the entrance of air into the body, as the syringe would, with the arm in this position, be necessarily held perpendicularly, with the nozzle downwards, and all contained air would remain at the top of the instrument; and thirdly, to enable any air to escape which might be in the space intervening between the opening in the vein and the occluding finger of the assistant on the proximal side. The vein was then opened. Then phlebotomy was performed on a healthy man, the blood being received into a small warm carbolized vessel, from which it was at once drawn into a warm carbolized three-ounce syringe having a narrow nozzle. When full,

it was inverted and the piston pressed, so as to expel any air, and the nozzle was then introduced into the vein. A quantity of blood was first injected into the space in the vein between the occluding finger on the proximal side and the opening in the vein itself. When this was done, the pressure on the proximal side was removed, and the contents of the syringe were slowly injected until only a couple of drachms remained. The pressure of the assistant's finger was again applied, and the syringe removed. It was then washed in 1 to 80 carbolized watery solution, recharged, and the blood introduced as before. The tin into which the blood flowed was kept free from clot, and several times a fresh cup was substituted. The arm from which the blood was drawn, and that into which it was injected, were kept constantly under the spray, and the blood itself, from the time it left the one arm until it was injected into the other, was either exposed to the carbolized spray or in contact with carbolized instruments: so that the whole transfusion was thoroughly antiseptic. With the exception of the transfusion being performed antiseptically, the other details of the operation were nearly the same as those adopted by Mr. Lister in a case in which he performed transfusion. The patient recovered completely.

MISCELLANY.

RUSKIN ON COOKERY.—Mr. Ruskin takes no mean view of the dignity of the cook's function. "What," he asks, "does 'cookery' mean? It means the knowledge of Medea, and of Circe, and of Calypso, and of Helen, and of Rebekah, and of the Queen of Sheba. It means knowledge of all herbs, and fruits, and balms, and spices, and of all that is healing and sweet in fields and groves, and savory in meal; it means carefulness, and inventiveness, and watchfulness, and willingness, and readiness of appliances; it means the economy of your great-grandmothers, and the science of modern chemists; it means much testing and no wasting; it means English thoroughness, and French art, and Arabian hospitality; and it means, in fine, that you are to be perfectly and always 'ladies,' 'loaf-givers;' and as you are to see, imperatively, that everybody has something pretty to put on, so you are to see, yet more imperatively, that everybody has something nice to eat."

ON THE DIGESTIVE POWER OF FIGS.—In the *Comptes-Rendus*, xci., Professor Bouchut speaks of some experiments he has made going to show that the milky juice of the fig-tree possesses a fermentative power of a digestive character. Having mixed some of it with a preparation from animal tissue, he found the latter well preserved at the end of a month. This fact, when brought into connection with Professor Billroth's case of cancer of the breast, which was so excessively foul-smelling that all his deodorizers failed, but in which, on applying a poultice made of dried figs cooked in milk, the previously unbearable odor was entirely done away with, gives an importance to this homely remedy not to be denied.—*Medical Press and Circular.*

TREATMENT OF PAINFUL CALLUS.—Professor Gosselin, of Paris, observes that when the pains which have their seat in the callus of a fracture are of a neuralgic origin we should treat them by blisters or cutaneous revulsives, and especially by the tincture of iodine. Hot or cold douches, or sulphurous douches, or frictions with a chloroform liniment may also be had recourse to. Finally, a roll-bandage with wadding is of undoubted utility, diminishing the pain sensibly by saving the limb from the little shocks which keep up the painful condition.—*Medical Press and Circular.*

CURE OF EPISTAXIS OCCURRING IN CIRRHOSIS OF THE LIVER.—Dr. Verneuil reports a case in which epistaxis occurring in cirrhosis of the liver, and which ergot and digitalis failed to arrest, was stopped by a fly-blister over the hepatic region.

DR. JOHN CURWIN, late Physician in Charge of the State Lunatic Asylum at Harrisburg, has established himself in the latter city as a specialist in mental disorders and diseases of the nervous system.

DR. WILLIAM LAUDER LINDSAY, author of "Mind in the Lower Animals in Health and Disease," died in Edinburgh recently, aged 50 years.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM JANUARY 23 TO FEBRUARY 5, 1881.

VOLLUM, E. P., MAJOR AND SURGEON.—Granted leave of absence for six months on Surgeon's certificate of disability, with permission to go beyond sea. S. O. 24, A. G. O., January 31, 1881.

GREENLEAF, C. R., MAJOR AND SURGEON.—His leave of absence, granted him in S. O. 158, series 1880, from A. G. O., extended to May 1, 1881. S. O. 20, A. G. O., January 26, 1881.

WILLIAMS, J. W., MAJOR AND SURGEON.—Par. 9, S. O. 2, c. s., A. G. O., relating to him, is revoked. S. O. 20, c. s., A. G. O.

BENTLEY, E., MAJOR AND SURGEON.—Announced as Acting Medical Director of the Department until the arrival of a medical officer his senior. G. O. 2, Department of Arkansas, January 17, 1881.

TAYLOR, B. D., CAPTAIN AND ASSISTANT-SURGEON.—The operation of par. 4, S. O. 14, c. s., A. G. O., as far as it relates to him, suspended until March 1, 1881. S. O. 20, c. s., A. G. O.

GARDINER, J. De B. W., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty at Camp Huachuca, and assigned to duty at Fort Mojave, A. T. S. O. 7, Department of Arizona, January 15, 1881.

BURTON, H. G., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to temporary duty at Fort Niagara, N.Y. S. O. 18, Department of the East, February 1, 1881.

PHILADELPHIA, FEBRUARY 26, 1881.

ORIGINAL LECTURES.

CLINICAL LECTURE

ON HYSTERO-EPILEPSY AND HYSTERICAL RHYTHMICAL CHOREA.

Delivered in the Hospital of the University of Pennsylvania, January 14, 1881,

BY H. C. WOOD, M.D.,

Clinical Professor of Nervous Diseases, etc.

Reported by Dr. CHARLES K. MILLS, Chief of Nervous Clinic.

THE patient is a girl nearly 17 years old. Her mother is living and well. Her father died fifteen years ago after a "paralytic stroke." She has brothers living and in good health. Four brothers are dead: two died of consumption, one of intussusception, and the fourth was drowned. The girl was well until she was thirteen years of age. She was then attending public school, was bright of mind, and was growing fast. She began to complain of being tired and of "lumps in her throat," and became afflicted with a low whining or barking cough, which lasted fully six months. It would come on about twelve o'clock every day and last until four the next morning, when she would go to sleep. This periodicity remained as long as the cough lasted. One day the cough left her, and immediately she began to have peculiar movements of her limbs, from which she has suffered ever since.

The following description may serve to convey an idea of their character. She lies in bed propped half up with pillows. Her forearms are held flexed on her arms at an angle of a little less than 90°, one hand usually near to or loosely thrown over the other. Her thighs are flexed on the pelvis at an angle of about 160°, and the legs on the thighs at an angle of 110°. The limbs, held by clonic spasm in this position, are in a state of constant rhythmical vibratory movement. The forearms move up and down over a limited area, with the hands moving inwards and slightly rotating towards the body. The thighs vibrate inwards and outwards, so that the knees sometimes strike together. The movements of the upper and lower extremities are in unison. At a number of counts they were from 110 to 120 per minute, and the knees at each vibration moving about three inches.

During sleep the movements are stilled. It is a curious fact that before coming into the hospital she has, as a rule, gone to sleep about four in the morning, sleeping until ten or twelve o'clock, and then again beginning with the movements, just as at the first she had the cough coming and going at regular intervals.

Three months before the nervous cough came on she menstruated imperfectly, but has never since had any molimen. She is a Catholic, and is religiously inclined, but has not been under any remarkable religious excitement. She has had numerous hysterical manifestations, such as spells of laughing, crying, irritability, etc.

She has been very persistently treated before coming to the hospital. During the last year she was under the care of Drs. Charles Wirgman and M. O'Hara, with Dr. Charles K. Mills as consultant. These gentlemen sent her to the hospital, hoping that therapeutic measures might be more efficient if she was removed from her home surroundings.

These are the main points in the history of this curious and unusual case. Other facts of interest will be brought out as we proceed with the examination of the patient and the discussion of her symptoms. Observe her closely. Her back is much curved; she seems unable long to hold her trunk erect without support. The muscles of the back are weak. She has the hysterical face. She constantly casts her eyes downwards. The rhythmical movements which I have described continue ceaselessly. The limbs are strongly flexed. They can, by the exertion of great force, be straightened, but the contractures at once return. When she is watched without her knowledge, the contractures remain and the movement continues, the latter, however, being usually a little more violent when she is under observation. Testing for the skin and patellar reflexes, they are found to be noticeably diminished. She is not wasted. Electro-contractility is retained.

Below the knees, as I show you, we have marked anæsthesia both to the æsthesiometer and to electricity. She does not recognize the difference between ice-cold and hot water. We have loss of sensibility as regards touch, pain, and temperature.

The anæsthesia extends to the deeper parts,—to the muscles. In the thighs it is incomplete. In the arms we have also partial anæsthesia. In reported cases of a somewhat similar character the special senses have been more or less affected. So far as we have been able to discover, no disturbance of any of the special senses has occurred.

Where does this case belong? Evidently in some of the groups of hysteria. The girl, according to her statements, has had violent epileptiform attacks. At one time during the last two years the convulsions were quite frequent. But at present she cannot be considered an hystero-epileptic. Those of you who have attended these clinics regularly will do well to contrast the present case with that of Mrs. S., who was in our wards a few months since. Like almost all the hystero-epileptics that I have seen, she was a fat woman, afflicted to some extent with apepsia and constipation, but by no means badly nourished. Her attacks were usually near the time of menstruation, were very violent, and were mostly preceded by some form of gastric distress. I read from notes made upon her case by Dr. Musser, our registrar:

"When she entered the ward, heart and lungs normal. She had left-sided paralysis and anæsthesia, the tongue turning to the left. The face not paralyzed. This state followed the last convulsion. Since then she has also been having headaches. After every severe convulsion she has loss of power and of sensation of some part of the body,—a leg or an arm,—which disappears gradually or another convulsion removes it. Pressure on the ovary does not influence the convulsions, nor is there any ovarian pain or tenderness. Muscles relaxed; electro-muscular contractility good.

"In the attack, without warning or after the gastric symptoms previously noted, she would fall to the floor with tonic spasm of the muscles of the neck, the trunk, and the limbs. In a few seconds clonic spasms followed the tonic, while the respiration would be stertorous, and there would be frothing at the mouth. Consciousness would be lost with the recurrence of the tonic spasm. Sometimes this epileptiform stage, lasting from two to ten minutes, would be followed by a trance-like state, the muscles all being relaxed, the breathing scarcely perceptible, the head turned to one side, the eyes closed. Often she would languidly open her eyes when spoken to or when pinched, or would give a moan, or would recognize nothing. The pupils were never dilated; the conjunctivæ sensible. Convulsive movements would often recur in the trance, which lasted from one to six hours. In about twelve or fifteen attacks, after the epileptiform seizures, tonic rigidity of the muscles of the body produced persistent opisthotonus. This stage continued a few minutes, followed by relaxation, exhaustion, and often fits of sobbing. Either a sleep from exhaustion or a fit of crying ended the attacks. During the opisthotonic stage the head would be buried into the pillow with a boring motion. After five of the severe attacks left hemiplegia and hemi-anæsthesia followed, lasting from a day to two weeks.

"Often the epileptiform seizures would be followed by slight exhaustion, from which in half an hour she would have recovered.

"Iodide of potassium was given and iodism produced, but no relief. The iodic eruption was all over the body, consisting of large, red, slightly-elevated blotches, tender and disappearing on pressure. Bromide of potassium was also given. After a violent convulsion all paralysis disappeared, and, being tired of hospital life, she was discharged.

"Some months later she returned to the hospital. Again had paralysis of left side. While in ward had one or two convulsions. Fluid extract ergot, ℥ss ter die, and monobromide camphor every four hours, gave her relief. She became pregnant just before entering the house. Whether the treatment or the pregnancy relieved her is a question. At all events, the return of the convulsions at longer intervals and the abatement of their violence was the result."

Subsequently to leaving the hospital Mrs. S. became the private patient of Dr. Musser, who gives the following account of her after-history:

"During the time of carrying child, in the first month had one hystero-epileptic attack. The three months following, had slight hysterical attacks. The last five months, had an attack (severe) of lumbo-abdominal neuralgia and of hysterical aphonia. For two weeks previous to labor suffered extremely from lumbo-abdominal pain. Twice had hysterical faints, but no convulsions. The labor was not difficult,

and was without exhaustion. About three weeks after the birth she had two brief attacks of unconsciousness, but no spasms."

It is plain that at present the case before us separates itself from such hysterical forms as were present in Mrs. S., but conforms very closely with the affection which is described by Charcot under the name of "hysterical rhythmical chorea." The physiology of such a case as this is to me a very extraordinary one. We are apt to have the idea of simulation connected with hysteria. Emotional disturbance certainly always is; but true simulation only occasionally. Ordinary chorea minor, or St. Vitus's dance, may be produced by fright from a thunderstorm or other cause. I have seen it so developed at once. Yet we do not think it simulated. Faith, fear, or other emotion will sometimes cure these cases of intensest hysteria; but this does not prove that the spasm or paralysis is a simulated phenomenon. Lie on your backs and move your legs, as this girl does, eighty times a minute backward and forward, and how long do you think that your muscular powers will suffice? Possibly twenty minutes, probably only ten. This continuous, untiring effort is one of the most extraordinary phenomena of these cases. The muscles of organic life work untiringly, continuously; but it is only in these diseased conditions that muscles of voluntary movement take on such attributes. This girl complains of no tire. An interesting point about the present case is that violent fear failed to arrest the movements. A neighbor's house was on fire; the smoke poured into this girl's chamber until there was danger of suffocation; she covered her head with the bedclothes, and the vibrations went on; her tonic spasms never relaxed. She was helpless, and seemingly would have burned alive if the conflagration had not been arrested.

Again, what is the nature of the lesions in cases like these? How can we explain the helplessness, how the vibratory movements, how the anæsthesia? I cannot answer you with any positiveness. We know only that loss of power is not always palsy, loss of sensation not always anæsthesia; or, to explain this seeming paradox, you may have loss of power, or loss of sensation, without destruction of the so-called centres or conducting tracts for motion or sensation. Let me recall here some of the experiments of Brown-Séquard. A semi-section of the cord is made; anæsthesia is produced. Another section, lower down, causes it to disappear. A section of nerve-fibres is made near one of the cerebral ganglia, and palsy results; but on division of the pons below, the palsy passes away. Cutting the sciatic, again, causes paralysis of sensation on the opposite side. The explanation of such experiments is, that centres are inhibited by the impulses conveyed from these wounded parts.

I think that many of the phenomena of hysteria are phenomena of inhibition. Brain- or cord-centres are inhibited by an irritable ovary or uterus, or by some other source of irritation, or sometimes we have a lack of inhibition,—a want of control over ordinary functions,—and spasms and hyperæsthesia result. The shifting nature of hysteria is best explained in this way.

There is one point about the present case which I desire to call your attention to, namely, that there is no ovarian irritation, and that deep pressure produces in the ovarian region no disturbances whatever of the symptoms or patient. In many of Charcot's cases of grave hysteria, ovarian pain and tenderness have been marked features; and the professor lays great stress upon the occurrence of such symptoms, and upon the fact that firm ovarian pressure will, in hystero-epilepsy, arrest the paroxysms. Our experience does not coincide with this. In the case of hystero-epilepsy spoken of above, ovarian pressure did not arrest the fits; and this is our common experience.

In American women the ovaries do not seem to be often involved in hysteria, nor are we able to feel them or impress them by the methods described by Charcot. Often, too, I have seen very marked ovaralgia and ovarian tenderness without hysterical symptoms.

For the purposes of prognosis, it is important to decide whether, in such a case as this girl, there are organic changes in the peripheral nerves, spinal cord, or brain. Even when no organic change is present at the start in a hysterical woman, it may be brought about by the continued functional excitement of the nerve-centres. You are familiar with many affections which at first are functional and eventually become organic. I need only recall to

you cases of "tobacco-heart" and of heart-strain in soldiers: these conditions, resulting from abuse and overstrain, lead, finally, to hypertrophy and other organic diseases. Something similar may take place in such cases as the one before you: the motor centres and motor channels being constantly over-excited and over-taxed, permanent changes may be produced in the delicate nerve-tissue; sclerosis may result. The best test that I know of for determining whether a contracture has become fixed—the result of secondary organic change—in a case of hysteria is the effect of etherization. So long as, during anæsthesia, the members relax, there is reason for believing that no serious lesions have occurred. Now, etherization produces here complete muscular relaxation. Similar cases, of much longer duration, have recovered. The mere fact that the case has lasted so long does not prove the existence of organic lesion; and I am inclined to believe no such lesion exists, and that recovery is possible, and may be sudden. The case has had all ordinary therapeutics applied to it, without result so far.

I would like to discuss carefully the proper treatment, but my hour is expired, and I must leave this for a future lecture.

ORIGINAL COMMUNICATIONS.

WEAK SPINES IN YOUNG GIRLS, AND THEIR TREATMENT.

Read before the Philadelphia County Medical Society, December 15, 1880,

BY JOHN M. KEATING, M.D.,

Lecturer on Diseases of Children in the University of Pennsylvania, Visiting Accoucheur to the Philadelphia Hospital, etc.

MY intention this evening is to bring before you a subject that may at first sight appear a trivial one, but which more extended observation and careful study have led me to consider worthy of the attention of this Society.

Thousands of young children are at this time bending over their books in the crowded school-room, straining their eyes, narrowing their chests, and bowing the back upon whose erectness and resiliency they should in future depend not only for support, but for health,—even life. A few years hence, these very spines, now strained, weakened, and probably curved, will be called upon without further preparation to bear the brunt of the great requirements of society, and soon after to be tortured by the physical burden of maternity; or probably the store, the sewing-room, or the factory, aided by some inherited taint, will determine the lesion and give us the cases of phthisis, diseases of the heart, carcinoma, and the various chronic affections that fill our mortality tables.

I call particular attention, in my paper, to the girls, because they are by far the more important class, and the out-door games and occupations of the boys tend to obviate what the sedentary tasks of their sisters but tend to increase.

Once free from the thraldom of school, the boys break loose to unbend their backs and free their lungs; the girls, to saunter home, their arms burdened with books, to aid their mothers in domestic duties.

The infantile diseases of the spinal column, those that involve the structure, have received careful study, and now, thanks to Sayre, the body is at once placed in splints until the rickety diathesis is overcome by growth and a full supply of bony deposit. Even such cases of structural disease as develop later in life are now easily detected at their earliest manifestation, and either held in abeyance by immediate treatment or effectually checked in their course.

But it is my purpose to call attention to another class where spinal weakness, due to the strain of position,—a condition so insidious in its onset and masked in its course,—escapes attention till the frame, fully set by complete bony deposits, cramps the viscera, and, by impeding healthy action, forms a nidus for disease. The development of the skeleton is undoubtedly influenced by the activity of its muscles: symmetrically-developed muscles will produce straight bones. We read much of dystocia, we hear of pelvic distortions, of narrow diameters. Has any one endeavored to mitigate these evils by helping Nature to make normal what the requirements of dress and pursuit have tended from early life to deform? The remedy for those conditions that have suggested the forceps, the cranioclast, or "version by the feet" lies in the early development of the skeleton by proper physical training,—in other words, by educating the female child to be a mother, and if its diathesis be rickety train its pelvis as well as its brain. Far be it from me to

decry anything that will tend towards the most thorough education of the intellect: my object is simply to contend that study can be accomplished without cramped positions, and that weak spines are not essential to educated women. My attention has frequently been called in connection with dispensary and other practice to a series of cases that forms the basis of this paper. For better elucidation, and to avoid repetition, I shall group them under two heads,—the first comprising those young enough to go through the daily routine of school life and thereby suffer at once from its ill effects; the second, those who, after having spent years in developing their intellect at the expense of their muscular and nerve force, suddenly call upon them to bridge them over the most difficult period of their lives. The first group you recognize by their pale faces, bowed backs, and rounded shoulders, frontal and occipital headache, weak eyesight, cardiac palpitations, disordered digestion, and certain nervous combinations, chorea predominating. Stand at any school-room door on an afternoon in the early spring, and you will not fail to see the cases that fill our dispensaries. You read their remedy in their very faces,—a proper division of study and recreation, recreation that means not mere rest from book-work, but muscular exercise, good food, and fresh air.

To-night to the second group I wish to call special attention: a chapter devoted to its consideration might most appropriately bear for its heading the one prominent symptom, "backache." Free from the daily restraint of school life, their hours are devoted to the absorbing necessities of society, and their habits either become extremely active or extremely sedentary, the mania for violent exercise developing from the lassitude that follows nervous excitement; and from one extreme to the other will these girls drag out years of miserable existence whose monotony will be relieved only by the periodical tortures of dysmenorrhœa. That the functions are deranged is simply in accordance with the general physical strain. In all such cases the great muscles of the back are those most called upon, and soon, from excessive tension or want of nutrition, fail in their most important duty. The equilibrium which is maintained by the concerted action of those of either side is lost by the giving way of the muscles that malposition has tended to weaken, and the stronger group brought into play draw the spinal column where they will. Neuralgic pains, backache, and internal congestions are the result, to say nothing of the occasional permanent lesion in long-standing cases by the absorption of cartilage. Weariness from anæmia, chlorosis, and hysteria in all its forms is the inevitable sequence. Let me picture for you an example. A young girl comes to your office with the following history. Possessed of a naturally strong constitution and vigorous intellect, she has been ambitious, has graduated after years of close application and with the highest honors of her class. Her winters have been spent in the sedentary pursuits of the school-room; even her hours of leisure have been devoted to her books. Of course, the usual result—"break-down"—has followed, and the routine treatment of tonics has been adopted, and, so far as general appearance is concerned, the patient has been benefited by them. But the principal complaint is weariness, a continual feeling of fatigue, following the smallest amount of exercise, brought on equally well by standing and by sitting, by day and by night. This feeling of weariness is more decided in the back, and is so uncomfortable, not to say painful, as to require some constant form of pressure in the lumbar and sacral regions, which, when lying in bed, is brought about by placing a pillow in the hollow. There is also an aching in one of the shoulder-blades, and a feeling of weakness in the muscles at the back of the neck. Upon examination, your patient appears well nourished, but the muscles upon pressure are found to be soft and flabby. It will be noticed when the back is examined that the patient leans more or less to one side, and if allowed to assume a natural and (to her) comfortable position that the difference is often surprising. As a rule, the aching or weariness is found located in the muscles that form the convexity, because those on the concave or the side towards which the spinal column leans seem to draw it in that direction, and thereby stretch the muscular tissue of the opposite side. In several cases that I have seen, this view appeared to be strengthened by the fact that faradic contractility was slightly diminished on the outer convex or weaker side. I have seen cases where

the pressure seemed so great as to cause absolute pain from the curvature alone, and I have no doubt that, without any distinct disease as an initial lesion, a permanent tendinous contraction can take place after a time identical with that which requires surgical interference in other parts of the body. Certain it is that in one case that came under my notice the pressure caused all the symptoms of phthisis in the lung pressed upon, all of which were relieved by straightening the spinal column. It is scarcely necessary to enumerate further the complaints of a patient such as I have described if the condition has been one of long standing: the interference with circulation, the in-door life, the restlessness from nervous irritability, the reflex nervous disturbances, the loss of appetite and want of nutrition, will be shown by a tangled chain of evidence that will tax the power and patience of the most accomplished and amiable of diagnosticians. Various forms of uterine disease, with flexions, versions, and prolapses, ovarian engorgements, enlarged and displaced ovaries, will add to the confusion by their perplexing train of symptoms. Relaxation is the word expressive of the one general cause of such conditions, and in our treatment we must bear in mind the atonic condition of every muscle, nerve, and fibre of the whole body. The admirable teachings of Dr. S. Weir Mitchell have enabled us to value, above all things, absolute rest in all such and allied cases; and to insist that, in the majority of those to which I now allude, it is the primary factor in their treatment, is simply to add testimony which is not required to the great success that has attended its trial.

When examination shows us decided weakness in the muscles of the back, I have of late adopted a plan calculated to give the support which is needful until the nutrition and strength of the muscle have been increased by local treatment. Instead of the plaster dressing, which is so valuable at other times, I would suggest the use of some lighter material, cardboard, for example, which, softened by hot water, easily moulds, and when dry and hard forms a light and admirable splint. It may be applied in this way. A small strip, extending fully the breadth of the back from the lower border of the scapulæ to the most prominent portion of the sacrum, covered with linen, is applied, when softened, over a piece of canton flannel or some such material, while the patient is sitting, care having been taken that during the application the spinal column is erect. A few turns of a roller will secure it in place. I usually cut the cardboard heart-shaped, with the base upward and the apex down. When dry, the support will be found complete. The shoulders will rest on a level, the lower borders of the scapulæ firmly fixed upon the upper part of the board, this position being, I think, most important. The cardboard can be attached to the corset, taken on and off with it, and, as the clothing fits perfectly without giving the least hint as to what lies beneath, patients will wear it with comfort and willingly for any length of time. But above all things I believe in the daily use of the faradic current, applied to those muscles or groups that it is proposed to strengthen, and to them alone: thus, if the column leans towards the right side, faradize the muscles of the left. This, I believe, is of far greater value than we have been accustomed to consider it, for single muscles can thus be readily exercised to the exclusion of others, and exercise of this kind brings with it increased nutrition, strength, and development in size. With such a power, when applied with the perseverance it demands, what are we not capable of doing? The aurist will tell you of its use in increasing the muscular tonicity of the smallest and most delicate muscles of the inner ear. In diseases of the uterus so powerful is its local action, when properly applied on muscular fibre, as to make permanent a position in many cases which has needed for years the support of the pessary. I may almost predict for the oculist its value in restoring accommodation instead of the ever-fashionable glasses. It is the daily systematic use of a well-contracting current that is followed by the beneficial result, just as it is the mildest form of continued exercise, and not the spasmodic muscular effort, that makes a man powerful. Recommend your patient before retiring to hang by the hands from a horizontal pole for a few moments, to use cold sponging, friction, and, above all, when possible, massage, to exercise daily in the open air, which the back-support invites, as the want of it before discouraged. When strength is gradually accumulated, encourage that most healthy and invigorating exercise, swimming, which

is never followed by the ill effects so often seen in women from the overstraining of violent walking or horseback-riding.

THE SULPHATE OF HYOSCYAMINE AS A MYDRIATIC.

BY S. D. RISLEY, M.D.,

Lecturer on Ophthalmoscopy in the University of Pennsylvania, Ophthalmic and Aural Surgeon to the Episcopal Hospital at Philadelphia, etc.

UNTIL a comparatively recent date, ophthalmic surgeons were compelled to rely solely upon the sulphate of atropin both in the treatment of certain inflammations of the eye and for paralyzing temporarily the power of accommodation. Other agents have, however, been introduced, which rival the old mydriatic in their ability to set aside the power of adjustment and possess the added advantage of resigning their control more rapidly. My investigations with the sulphate of duboisine (*Amer. Jour. Med. Sci.*, April, 1880) and the hydrobromate of homatropine (ibid., January, 1881) have encouraged a similar investigation into the properties of hyoscyamine and daturine,—specimens of which, manufactured by Merck, have been kindly supplied me by Mr. George I. McKelway.

The present paper is a preliminary statement of the results thus far obtained from hyoscyamine.

In the following group of eight cases a solution of the sulphate of hyoscyamine, gr. ij to f℥j, was invariably used,—being first instilled in the clinic-room and a careful record made of its action over the pupil and accommodation.

In a few instances a solution, gr. j to f℥j, was furnished, to be used three times daily at home. At the succeeding visit the stronger solution, one or two drops in each eye, was again instilled, and the examination for the glasses made after a time varying from thirty minutes to an hour, or longer. In three cases the glasses were ordered after the single instillation, the power of accommodation being entirely set aside. In Case VI., two drops of the two-grain solution were applied very thoroughly. In twenty minutes she complained of giddiness, so that in crossing the room she walked as though suffering an attack of vertigo. Her glasses were ordered one hour and a quarter after the application, and she left the clinic-room without difficulty, the giddiness having nearly disappeared. In no instance was there any complaint made of dry throat or skin, nor was there the least conjunctival irritation following its use.

In Case VII. the lad's mother was disturbed in the night by his restlessness and talking in his sleep, which she thought must be due to the drops. He was using the one-grain solution at home.

In Case VIII. the result obtained under hyoscyamine was confirmed by the subsequent use of a four-grain solution of sulphate of atropine three times daily for two days.

Case I.—At 5 o'clock P.M. a minute quantity of a solution of the sulphate of hyoscyamine (gr. ij–f℥j) was applied to the conjunctiva of the lower eyelid without causing any irritation. In ten minutes there was some disturbance of near vision, and the pupil larger than in the other eye and slightly ovoid. In twenty minutes the pupil was dilated *ad maximum*, and J. 1 could not be seen. In thirty minutes J. 1 could be read only at the focus of a convex glass ($+\frac{1}{12}$ J. 1, 11″ to 13″; slight H.). At 12 o'clock the following day, nineteen hours after the application, which had not been repeated, the pupil was still widely dilated and immovable, and the paralysis of accommodation complete. At 5 P.M., twenty-four hours after the application, there was still complete mydriasis and no return of accommodation. At 9 o'clock A.M. the following day, forty hours from application, with $+\frac{1}{12}$ J. 1, p. p. $7\frac{1}{2}$″. At 3 P.M., $+\frac{1}{12}$ J. 1, p. p. $5\frac{1}{2}$″. On the morning of the fourth day, 9.30 A.M., the near point for each eye was the same (7″),—the normal range of accommodation.

Case II.—One drop of a two-grain solution of hyoscyamine was instilled into each eye of a girl 15 years of age. In ten minutes the pupil of O. S. was dilated *ad maximum* and fixed, that of O. D. retaining a slight resiliency. In twenty minutes both pupils were dilated *ad maximum* and fixed. In twenty-five minutes, with $+\frac{1}{6}$s J. 1, $11\frac{1}{2}$″–12″ for O. D., $10\frac{1}{2}$″–12″ for O. S.

On careful testing with trial-glasses, one hour after the instillation, she very positively selected O. D. $+\frac{1}{10}$s ⌒ $+\frac{1}{86}$c, axis 30°;
O. S. $+\frac{1}{9}$ s ⌒ $+\frac{1}{60}$c, axis 90°; and all accommodation was abolished. Seventy-two hours after the use of the drops, with the correcting-glass J. 2 could be read up to $6\frac{1}{2}$″ with O. D., 5″ with O. S. The pupils were dilated small-medium, and reacted quite promptly to changes of light and shade. Twenty-four hours later, the pupils were normal in size and action, and, with her correcting-glass, the accommodation had fully returned.

Case III.—In this case a small drop of two-grain solution was instilled in each eye of a patient of 43 years, suffering from retinal irritation, with spasm of accommodation simulating a considerable myopia. In an hour the mydriasis was complete and the accommodation was totally paralyzed, revealing hypermetropic astigmatism of $\frac{1}{48}$ in the highest meridian. The choice between several compound glasses could not, however, be made with certainty, the irritable condition of the eyes and the use of artificial light being the probable causes of the hesitation. A solution (gr. j–f℥j) was given to be used twice daily at home, and after sixty hours the paralysis was still complete. The two-grain solution was, however, again employed, repeated in an hour (this time two drops in each eye thoroughly applied), and the final choice of the glass was made without hesitation. Although the mydriatic was here freely used,—more freely at the last than duboisia could have been employed without liability to constitutional disturbance,—no unpleasant symptom was experienced beyond that incidental to the paralysis of the accommodation and the dilatation of the pupil.

Case IV.—A medical student, with marked retinal irritation and apparent myopia from accommodative spasm. Half an hour after the instillation of one drop of the two-grain solution the mydriasis was complete in the left eye, and $+\frac{1}{72}$c, axis 75°, brought the vision a little above normal. In the right eye an increment of accommodation remained, and one meridian seemed still myopic. After sixteen hours the instillation was repeated, and again twenty-four hours later. The myopic meridian of the right eye had now disappeared, giving place to simple hypermetropic astigmatism, no change having taken place in the left. With a convex glass added to the correction, J. 1 was read exactly at its focus, being blurred at every other point; *i.e.*, the paralysis was absolute. Thirty hours after the last use of the drops there was very slight return of the action of the iris, but the accommodation had returned sufficiently to allow medium print to be read, and with $+\frac{1}{12}$s J. 1 could be read up to 7″. Twenty-four hours later the pupils were still widely dilated and sluggish, but, with the correcting-glass, the accommodation had almost completely returned. Eighty hours after the last instillation the accommodation had been fully recovered, but the pupil was still dilated medium, though reacting promptly to changes of light and shade.

Case V.—Another medical student, with myopic eyes stirred up to spasm by the effort to wear too strong a glass. Fifteen minutes after the instillation of two drops of the two-grain solution in each eye the pupils were fully dilated and fixed, but the accommodation was not completely paralyzed, and had not become entirely quiet an hour after the instillation. On testing with the trial-glasses, one hour and a half after the instillation, the spasm was gone, the paralysis complete, and the compound correcting-glass was selected without hesitation. Twenty hours later the pupil was still fixed, but the accommodation had returned in part, and the spasm had recurred. Forty-eight hours after the use of the hyoscyamine the pupils were small-medium, and, with the astigmatism corrected, the accommodation but little below normal. When next seen, forty-eight hours later, the accommodation had completely returned, and the pupils were normal.

Case VI.—Mrs. H., æt. 49, suffering from asthenopia. A two-grain solution of the hyoscyamine salt was instilled, two drops in each eye, at 1.40 P.M. At 1.45 the right pupil was oval; left, no change. 1.47, both dilated medium and reacted sluggishly. 1.54, pupils dilated widely and were immovable, and vision had sunk from $\frac{20}{XXX}$ to $\frac{20}{C}$. At 2.20 she selected $+\frac{1}{42}$s ⊃ $+\frac{1}{60}$c, axis 90°, $V = \frac{20}{XX}$, for O. D.; $+\frac{1}{36}$s ⊃ $+\frac{1}{60}$c, axis 90°, $V = \frac{20}{XX}$, for O. S. Half an hour later, on careful measurement, the same glasses were again selected, and with them, and $+\frac{1}{12}$ added, she could read only at its focus, the paralysis of accommodation being complete. In twenty minutes after the application Mrs. H. complained of vertigo and walked across the floor with difficulty. In one hour and a half this had quite disappeared, so that she was able to return home without difficulty.

Case VII.—A boy of 10 years, with a family history of eye-trouble, suffering from the tax of his school-work. A convex glass had been ordered, in conformity with the ophthalmoscopic reading, but had failed to make him comfortable. Two drops of the two-grain solution were instilled in each eye, and in fifteen minutes the pupils were dilated *ad maximum* and fixed. In forty minutes all accommodation was apparently gone, but the full hypermetropia was not revealed except to the ophthalmoscope, and the astigmatism, though recognizable, could not be accurately measured. A solution (gr. j ad f℥j) was given, to be used three times daily for two days, and the two-grain solution was repeated on his return. The determination was now made with little difficulty, but a lingering doubt, caused probably by the irritability of the eyes, led to the continued use of the drops (one-grain solution). After twenty-four hours the determination was made without difficulty, and the accommodation was found absolutely paralyzed. When next seen, seventy-two hours after the last use of the drops, the pupils were still dilated to medium, but were prompt up to this point in their reaction, and the accommodation had in great measure returned. Twenty-four hours afterwards the pupils were about the same, and the

near point still a little outside of that first recorded.

Case VIII.—A student, 20 years of age, with hard-worked eyes, suffering extremely from straining to overcome a high hypermetropic astigmatism. The two-grain solution was instilled, and in twelve minutes the pupils were widely dilated; in twenty-five minutes they were dilated *ad maximum* and fixed. At the test, made within an hour after the instillation, the entire astigmatism was revealed, but $\frac{1}{48}$ of hypermetropia, shown by the ophthalmoscope, remained latent. A solution (gr. j ad f℥j) was given, to be used twice, at home, during the twenty-four hours, and was instilled for the third time forty-five minutes before the test. A satisfactory determination of the correcting-glass was now made, but to complete the case a solution of atropia (gr. iv ad f℥j) was substituted, to be employed three times daily. After forty-eight hours' use of the latter mydriatic, identically the same glass was selected for the right eye (the eye with which he was accustomed to work, the other being more defective), while for the left a nearly equivalent glass, with a slight change in the relation of spherical and cylinder, was preferred. The vision was slightly better in both eyes, as under the mydriatics they had lost much of their irritability. In this case at the first application only was the two-grain solution employed, and the one-grain solution only three times in the twenty-four hours.

The left eye, selected after hyosc. gr. ij sol., one hour, $+\frac{1}{36}$s ⊃ $+\frac{1}{18}$c, axis 85°.

The left eye, selected after hyosc. gr. j sol., twenty-four hours, $+\frac{1}{18}$s ⊃ $+\frac{1}{16}$c, axis 90°.

The left eye, selected after atrop. gr. iv sol., forty-eight hours, $+\frac{1}{20}$s ⊃ $+\frac{1}{14}$c, axis 85°.

No.	Age.	Length of Use.	Return of Accommodation.	Formula of Correction.	Remarks.
1	...	1 hour (single application)	90 hours	...O. D. $+\frac{1}{48}$s	Pupil still slightly dilated at 90 hours.
2	15	1 hour (single application)	96 "	O. D. $+\frac{1}{16}$s ◯ $+\frac{1}{36}$c, axis 30°.. O. S. $+\frac{1}{8}$s $+\frac{1}{60}$c, axis 91°..	Pupils normal at 96 hours.
3	43	...68 hours	...100 "	O. D. $+\frac{1}{60}$s $+\frac{1}{72}$c, axis 30°.. O. S. $+\frac{1}{48}$s ◯ $+\frac{1}{72}$c, axis 120°..	Pupils dilated medium, but prompt.
4	21	...40 "	... 77 "	O. D. $+\frac{1}{72}$c, axis 165° O. S. $+\frac{1}{72}$c, axis 75°	Pupils dilated medium, but prompt.
5	20	1½ hours (single application)	Nearly complete; 48 hours	O. D. $-\frac{1}{18}$s ◯ $-\frac{1}{60}$c, axis 120°.. O. S. $-\frac{1}{18}$s $-\frac{1}{60}$c, axis 75°..	Pupils dilated medium, but prompt.
6	49	1¼ hours (single application)	100 hours	O. D. $+\frac{1}{42}$s $+\frac{1}{60}$c, axis 90°.. O. S. $+\frac{1}{36}$s $+\frac{1}{60}$c, axis 90°..	Giddy. Pupils dilated medium, but prompt.
7	10	...72 hours	Not quite complete; 96 hours	O. D. $+\frac{1}{36}$s $+\frac{1}{72}$c, axis 75°.. O. S. $+\frac{1}{36}$s $+\frac{1}{72}$c, axis 105°..	Pupils dilated medium, but prompt.
8	20	...25 "	...	O. D. $+\frac{1}{24}$s $+\frac{1}{14}$c, axis 105°.. O. S. $+\frac{1}{20}$s ◯ $+\frac{1}{14}$c, axis 85°..	Confirmed after atropia, 48 hours.

It will be seen from the foregoing that the hyoscyamine is a powerful mydriatic; that in the rapidity of its action over the iris and ciliary muscle, and in the duration of its control, it is more like duboisine than like atropine. The giddiness, which, however, occurred in but one instance, was also more like the constitutional effect of duboisine; but it was not attended by the sense of weakness in the lower extremities produced by that drug when used incautiously. That there is little danger of annoyance from the constitutional impression, when used in solution no stronger than two grains to f℥j, is indicated by the fact that, though used profusely in several of these cases, there was no disturbance whatever except in the case of Mrs. H., above noted, where the giddiness was possibly due to the rapid paralysis of the accommodation and consequent blurring of vision. Regarding the effectiveness of hyoscyamine in paralyzing the accommodation, further observation will be necessary; but Case VIII. is important in this connection, since the subsequent prolonged use of atropiæ sulphas only served to confirm the result obtained under the hyoscyamine.

In closing this preliminary statement, I desire to express my obligations to Dr. B. Alexander Randall and Dr. James Wallace for their efficient aid in making and recording these observations.

1430 WALNUT STREET.

HOMATROPINE HYDROBROMATE: IS IT A POWERFUL MYDRIATIC?

BY WILLIAM F. LITTLE, A.M., M.D.,

Chief of the Eye Clinic, Jefferson Medical College Hospital.

MY attention was first called to homatropine hydrobromate by a short notice in the *American Journal of the Medical Sciences* for July, 1880. At the annual meeting of the American Ophthalmological Society, held in July, I spoke to several

members individually about it, and no one had any knowledge of it. I was unable to obtain possession of the drug until some two months ago.

Dr. Schell, in Nos. 336 and 337 of the *Philadelphia Medical Times*, Dr. Keyser, in No. 338 of the same journal, and Dr. Risley, in the January, 1881, number of the *American Journal of the Medical Sciences*, have brought the drug before the profession in this country, and many have had opportunity to test its value. Can we claim for it all that is desired as a mydriatic for the purpose of full refraction? It has been used sufficiently in my dispensary service at the Jefferson Medical College Hospital and in my private practice to enable me to express an opinion as to its capabilities and position among the mydriatics available for refractive purposes. My private students—several physicians and professional men—were my first cases; several had been refracted under atropia or duboisia previously, and one, under my own observation, had, after a sufficiently prolonged interval, a solution of atropia, gr. iv, duboisia, gr. iv, and homatropine, gr. viii.

Dr. Schell advocates a solution xvi gr. Dr. Risley says a ii gr., iv gr., or vi gr. is sufficient. I selected a solution viii gr. to the ounce without bringing any data to bear; more than fifty eyes have been examined by me. I merely wish to explain briefly what I have found it worth. In procuring refraction, a mydriatic is required that will paralyze the ciliary muscle, or if it is not accomplished we should be cognizant of it. I am an advocate of refraction as positive as it can be made, and, having experienced the advantages of a full correction and the permanence of it where spasm of accommodation or choroido-retinal irritation is overcome, we should seek this in the treatment of our cases.

The use of homatropine in my dispensary service has been given up for the following reasons. Its short duration prevents a second trial, and, it being required to be used a second time, a variableness is found in the results of myself and associates that leads to uncertainty, remembering that a patient with your glass on has you by the nose, so to speak, and can lead you into pleasant or unpleasant relations with himself and others. As much certainty can be attained by the ophthalmoscope or the ameliometer of Prof. Thomson—no spasm of accommodation existing, methods being available to recognize this point—as is obtained by the use of homatropine. The observer must have control of his own accommodation to do this, however. By this statement I mean that I feel as certain of my work with the ophthalmoscope as I do with homatropine; and how closely an ophthalmoscopic examination reveals defects is fully appreciated by all observers, few being able to command control of their own accommodation, as is required to make the result effective. Preference, then, should be given to a drug that gives more time, more certainty, and full corroboration by the ophthalmoscope in dispensary service.

The same holds in one's consulting-room, and when the ophthalmoscope, with other methods, cannot give a diagnosis, there should be no uncertainty in the drug used.

Patients complain very little as to the length of duration of the annoyance of mydriatics between duboisia and homatropine where symptoms occur that they are only too glad to be relieved from, even under the delay that occurs in strong solution of atropia.

Advocates of homatropine, when employing atropia, not unfrequently employ the drug (atropia) for several days prior to their making an examination, presuming that all cases have spasm of accommodation or choroido-retinal irritation; yet they use a drug which is more evanescent and has some uncertainties after one instillation in the same class of cases.

Dr. Risley says, "In other cases, on subsequent examination under atropia or duboisia, slight changes were made in the glasses at first chosen under homatropine, but not greater than are often made after the continued use of atropia or duboisia. It also happened that when the first examination was for any reason not satisfactory, and where the homatropine was continued, a second examination revealed a slightly higher degree of hypermetropia or astigmatism. More frequently, however, only a greater certainty in placing the direction of the cylinder axis was observed, or an improved sharpness of sight with the same glass at first selected, due, no doubt, to the subsidence of the choroido-retinal irritation." It is "the slight change in the glass," or "slightly higher degree of hypermetropia or astigmatism," or "greater certainty in placing the direction of the cylinder axis was observed," or "an improved sharpness

of sight,"—it is all these that are so apt to be found under homatropine that enables its uncertainty to be almost assured, and these slight uncertainties make the result less valuable; and when this can be attained by the ophthalmoscope, the observer controlling his own accommodation, how can homatropine compare with either atropia or duboisia where prolonged use is required, where spasm of accommodation occurs?

Homatropine hydrobromate, so far, seems to stand in the position of hydrobromic ether. Prof. Thomson, of Philadelphia, and Prof. Noyes, of New York City, have given expression to me very much in the same vein as to the capabilities of the drug.

I find it of service in elderly persons with hypermetropia, whose accommodation has failed, using it where atropia might produce a glaucomatous condition, and I have feared with them duboisia might have the same effect as atropia occasionally has, but as yet no cases with either duboisia or homatropine have been quoted. For mere mydriasis to examine the fundus of the eye and other internal tissues it is most serviceable. Its therapeutic effect has not been attempted.

A further acquaintance with the drug and methods of using it may make it more available, but, so far, atropia and duboisia are the more efficient in correcting optical defects.

219 South Seventeenth Street.

COMPOUND COMMINUTED COMPLICATED FRACTURE OF JAW.

BY HENRY M. WETHERILL, M.D.

JOHN G., æt. 32, single, was admitted to the Surgical Ward of the Pennsylvania Hospital, under care of Dr. William Hunt, June 21, 1880.

This man had his face crushed in a machine-shop, between the floor and a roller. Upon admission, the right side of his face was drawn very much inward, the features twisted over towards the opposite side, and the mouth puckered up as though the patient was whistling. On the right side of his face was a lacerated wound two and one-half inches in length, commencing at a point half an inch below and immediately under the angle of the mouth, and extending downward and backward, crossing the jaw. The lower jaw was very obliquely fractured and very badly comminuted at a point corresponding to this wound. The articulating end of the right side was luxated forward from its glenoid cavity, and the lower end of the upper fragment was carried over to the opposite side of the mouth, this sharp point piercing the left cheek.

The hemorrhage was very free, the floor of the mouth and the mental artery having been lacerated. The neighboring soft parts were much contused.

The luxation was easily reduced, but it was found to be impossible to approximate the main fragments until all of the comminuted bone was removed, with three of the teeth, the latter carrying with them portions of the alveolar border of the jaw. Four spouting vessels were then ligated, and the oozing controlled by very warm water. The long, sharp, oblique upper fragment was next forced down into position, when it was seen that the loss of bone was very considerable, a triangular cavity or hiatus being thus formed, the base corresponding to the base of the jaw, the apex to the alveolar border. So strong was the action of the temporal, pterygoid, masseter, and buccinator muscles as to require considerable effort to hold the upper fragment in position.

It having been found impossible to retain the fragments in apposition by any of the ordinary appliances, the patient was etherized, and the writer, by the kind permission of Dr. Hunt, operated. The existing wound was enlarged by carrying a knife up through the angle of the mouth, and a broad flap was dissected back over the extremity of either fragment, thus fully exposing the sound bone.

The periosteum was found to have been very much torn. Several bleeding vessels were ligated, and either fragment near its extremity was drilled through in two places and the fragments brought into approximate apposition by the passage of very stout silver wires through the drill-holes, the ends of each pair being twisted firmly up, left long, and carried outside the external wound. The soft parts were brought together by pins and twisted sutures. Dressing,—carbolized lint, a pasteboard jaw-cap, and Barton's bandage. This arrangement held the very irregular fragments without motion, and the dental line was almost perfect. Ordered liquid diet.

Upon the 30th the sutures in the soft parts were all removed, the pins having been withdrawn five days previous. The ligatures were all away, and the condition of the patient good. The dental line was well preserved, and the fragments were firm.

At no time was there any marked rise of temperature, and the man fed well on

fluids. From time to time various shells of necrosed bone came away, but progress towards recovery was steady.

Under date of August 21 is noted "that the last bone suture came away, and careful manipulation reveals that the union is perfect, the contour of the jaw good, and the line of the teeth well preserved. He masticates solid food as well as before the injury, and the only resulting deformity is the slight one of a cicatrix running downward from the angle of the mouth to the base of the jaw."

SOME TABULAR RESULTS OF THE MOVEMENT-CURE.

Presented to the Philadelphia County Medical Society at the Meeting of November 24, 1880,

BY BENJAMIN LEE, A.M., M.D.

MANY members of this Society will remember having seen in Machinery Hall, at the Centennial Exhibition, a very interesting exhibit of apparatus intended for administering the Swedish movements. The table which follows is an abstract from the report to the National Board of Health, at Stockholm, of the Medico-Mechanical Institute of Gothenburg, Sweden, in which similar apparatus is in use. It covers a period of five years, from 1867 to 1872:

Diseases.	Number of cases.	Cured.	Benefited.	Not benefited.
Diseases of the heart, functional	10	9	...	1
" " " organic	49	...	42	7
Rush of blood to the head	28	10	16	2
Recurring hemorrhage from nose	2	2	...	...
Defective capillary circulation	7	7	...	...
Paralysis of all forms	25	7	15	3
Tabes dorsalis	3	...	2	1
Muscular atrophy (partial)	12	2	8	2
Chorea	3	3	...	...
Writer's cramp	1	1	...	...
Neuralgia	12	6	5	1
Nervous exhaustion	64	10	41	13
Constipation	43	20	16	7
Dyspepsia	36	12	22	2
Pulmonary catarrh	13	4	8	1
" consumption	14	...	9	5
Emphysema	11	...	11	...
Scrofula	3	2	1	...
Debility with anæmia	67	9	52	6
Chlorosis	128	44	77	7
Rheumatism	48	14	31	3
Disordered menstruation	8	2	4	2
Uterine displacements	14	3	9	2
Spermatorrhœa	13	8	3	2
Spinal curvatures	62	20	33	9
Contracted joints	11	2	8	1
Chicken-breast	30	7	23	...
Total	717	204	436	77

One of the most important and successful institutions for carrying on this mode of treatment outside of Sweden is that of which Professor Axel Sigfrid Ulrich, M.D., is director, in the city of Bremen. Professor Ulrich is a man of acknowledged ability, as witnessed by the honors which he has received, being a Knight of the Swedish Order of Wasa, Member of the Medical Society of Stockholm, and corresponding member of the Royal Society of Medicine and the Natural Sciences of Brussels, of the Medico-Chirurgical Academy of Barcelona, of the medical societies of Paris, Antwerp, Athens, etc.

I append a summary of the twenty-third annual report of his institution for the year ending July 1, 1879:

Diseases.	Received.	Cured.	Greatly improved.	Improved.	Unimproved.	Irregular in attendance.	Still under treatment.
Anomalies of innervation, —disturbances of nervous activity (chorea, etc.)	2	...	...	2	...	...	...
Neuralgia	3	...	...	1	1	1	...
Nervous debility	5	1	1	1	...	1	1
Disturbances of the circulation,—plethora, rush of blood to the head, menstrual disorders	3	1	2	...	...	...	...
Constitutional affections, —scrofulous diathesis	7	2	3	1	1	...	...
Local thoracic affections, —feeble respiration	2	1	1	...	...	...	...
Abdominal affections,—constipation, cardialgia, dyspepsia	10	6	3	1	...	...	...
Spinal curvatures	59	23	17	14	...	...	5
Rheumatism	8	7	1	...	...	...	..
Paralysis	5	...	5	...	...	...	...
Joint-diseases	2	...	2	...	...	...	...
General debility	6	5	1	...	...	...	...
Total	112	46	36	20	2	2	6

During the same period the following cases were successfully treated by massage alone: sprained ankle, 6; sprained knee, 2; sprained wrist, 4; sprained fingers, 3; tendo-vaginitis of foot, 2; chronic synovitis, 2. The average number of sittings in the cases of sprain was between five and six. This, I am aware, will scarcely seem credible to those who are accustomed to put a sprained ankle or wrist into splints, starch, or plaster, and see it drag along for weary months before it again becomes a useful member. With the immediate, persistent, and frequent use of this means, however, few sprains will disable the suf-

ferer for more than three or four days, and many will be entirely relieved at a single sitting if it follows the accident within an hour or two.

NOTE ON THE HYGIENIC INFLUENCE WHICH MAY BE EXERTED BY HOUSE-PLANTS UPON INDIVIDUALS WHO ARE PREDISPOSED TO PHTHISIS PULMONALIS.

BY ELY McCLELLAN, M.D., U.S.A.

FOR the past three years there has been almost constantly under my observation a case which seems to be thoroughly corroborative of the views advanced by Dr. I. M. Anders in his paper "On the Hygienic and Therapeutic Relations of House-Plants."*

E. M. is a gentleman 30 years old, who belongs to a family in which there is a marked history of phthisis pulmonalis. His physical appearance would indicate that he might be subject to the disease, but he has, as yet, escaped its development.

The history of this case involves the families of both the father and mother. The father, although born of tubercular parents, escaped the disease, but the mother died at comparatively an early age, leaving a family of five children, four of whom have died of consumption. Of these children three died between twenty and twenty-five years of age; one died in his thirty-ninth year, after a long illness, the last two years of which were under my observation.

E. M. is the youngest of the family. His life, with the exception of the last eighteen months, has been devoted exclusively to sedentary pursuits. At twenty-three he married, and, as he was then engaged in an occupation which required his residence at an isolated locality, for both amusement and occupation his wife commenced the cultivation of house-plants. She soon became an enthusiast, and a profusion of plants, especially those of the foliage varieties, accumulated in her house. As they resided in an extremely changeable climate, where during the cold months constant watchfulness is necessary for the preservation of plants, her bedroom and the adjoining sitting-room were arranged for that purpose.

Before his marriage E. M. complained of, as he expressed it, "a weakness of the chest, and a constant liability to take cold." Since his marriage, with the exception of an occasional dyspeptic ailment, he has seemed a healthy man; and it is but reasonable to attribute his escape from the disease which has destroyed so many of his family to the fact that he lives, and has lived for the past seven years, in apartments well stocked with thrifty plants.

December, 1880.

* Philadelphia Medical Times, May 8, 1880.

TRANSLATIONS.

DISEASES OF THE KIDNEYS DEPENDENT UPON SYPHILIS.—Dr. E. Wagner (*Deutsches Archiv für Klinische Medicin*, 28ten Bd., p. 94) says that although kidney disease as a result of syphilis is unusual, yet it is not as rare as has been supposed. In 9000 autopsies Wagner found 63 cases of kidney trouble. Of these 8 were acute Bright's disease, 4 chronic, 7 granulated kidney, 6 atrophy of one kidney, 35 amyloid degeneration, and 3 syphiloma. Speiss, in 220 autopsies of syphilitic cases, found pathological changes in 147. Only 7 had gummatous interstitial nephritis. Of 10 cases of congenital syphilis with diseased kidneys there were 3 each of parenchymatous nephritis, amyloid nephritis, and infarction, with 1 of simple interstitial nephritis. Bamberger found 49 cases of syphilitic disease in 2340 cases of acute and chronic Bright's disease. A. Beer describes very fully the various anatomical conditions in the kidneys of syphilitic persons. 1. Small circumscribed nodular formations (gummatous tumors) in otherwise normal or differently-diseased kidneys. 2. Simple interstitial hyperplasia, mostly irregular with the formation of cicatrices; rarely scars in otherwise normal tissue. 3. Diffuse cellular hyperplasia of the interstitial tissues, mostly with lardaceous degeneration of the vessels and manifold atrophies of the new formation, as well as with peculiar parenchymatous changes. These were particularly small fatty deposits; rarely this form without lardaceous degeneration. 4. Purely parenchymatous affections. Without other aids to diagnosis, only the first and third of these forms can, according to Beer, be regarded as characteristically syphilitic.

In Wagner's study of these diseases he divides his cases into several categories. 1. Under the head of acute Bright's disease he gives the histories of three cases where this affection was either observed in patients under the full influence of the early stages of syphilis, or where the symptoms disappeared under the use of antisyphilitic remedies, and follows these with five more cases where post-mortem examination of patients who had showed symptoms of syphilis during life revealed parenchymatous nephritis with hemorrhage, etc. 2. Under the head of subacute or chronic Bright's disease Wagner gives four cases similar to those in the first division, except that the autopsy showed in each case the second stage of Bright's disease. 3. Under the head of granular kidney seven cases are included, in four of which a microscopic examination was made. General characteristic appearances were not noted; in particular there was no constant arterial affection. The coincidence of the syphilitic symptoms and the kidney disease appears to have been made out in each case.

Under the head of unilateral atrophy of the kidney six cases of constitutional syphilis are given where marked contraction of one kidney was found with compensatory hypertrophy of the other, which was either normal or showed amyloid degeneration. While other causes might have been adduced for the atrophy in these cases, syphilis was the most likely. Weigert observed the same condition in two instances, and found arteriitis obliterans as first described by Heubner in syphilis. Macroscopically the kidneys were quite smooth; microscopically the changes were closely similar,—extreme disturbance of the cortical canaliculi, sometimes with entire, sometimes with contracted glomeruli in a stroma diffusely infiltrated with small cells.

Wagner observed thirty-five cases of amyloid degeneration of the kidney, and gives brief notes of the most interesting. Tuberculosis and also amyloid degeneration of liver and spleen were present in many of these cases. Some cases were cured. Finally, Wagner gives several cases of syphiloma, one of which had apparently been cured by treatment. He adds to this a number of references. The article is a very valuable one, and is carefully worked up.

A Case of Intermittent Articular Swelling.—Dr. Kolbe's case (*Deutsche Med. Wochens.*, January 22, 1881) was that of an unmarried lady of 32, of a neuropathic family, who had never suffered from any serious disease, but showed signs of general impoverishment of the blood. Seven years previously she had stumbled in ascending a staircase, and had immediately experienced a shooting pain in the left knee. Nevertheless, the patient danced frequently the ensuing evening. On the next day a well-marked swelling of the knee-joint was observed, which necessitated the application of a plaster-of-Paris bandage. When this was removed, the swelling was found to have disappeared; but it reappeared within two or three days. This recurrence was observed, in spite of repeated bandaging, for more than six months, after which the knee returned to its normal condition, except that it was weak.

Two years later the patient again injured this knee, and although the swelling, etc., were reduced by treatment, regular remissions at intervals of nine days began to be observed. After the use of an acid ferruginous mineral water the intermissions grew longer and the relapses more and more irregular. But again, a year or so later, after a fresh fall, the knee trouble began once more, and this time (summer of 1878) the patient called in Dr. Kolbe. She complained of weakness in the left leg, with occasional pain in the left knee-joint. Her gait was normal, but she became easily tired. The alar ligaments were slightly swollen and doughy. After using bog-baths for some weeks, the patient appeared nearly well.

The following summer, however, the disease again recurred, following some slight over-exertion. Hydropathic and other treatment improved the condition of the joint, but the disease a few months later took once more a distinctly periodical course. Every eleventh day the patient, without having experienced any prodromal signs, observed on waking that her left knee was decidedly swollen. The swelling increased without pain until the evening of the twelfth day, and gradually disappeared on the thirteenth and fourteenth days. The only disturbance was that of difficulty of locomotion. The disease kept on in this intermittent course for nearly a year, the patient becoming meanwhile greatly depressed and anæmic from moral causes. Examination showed each remission to be followed by serous effusion.

Fifteen grains of salicylic acid, given every two hours during two days before the expected attack, prevented its appearance. As this disturbed the stomach, Fowler's solution, with a fixed silicate bandage to the knee, was prescribed, and the patient confined to a wheel-chair. By this means a perfect cure was attained.

Secondary Syphilitic Laryngitis.—Dr. Gougenheim, in a lecture recently reviewed in *La France Médicale*, says that this affection is not of infrequent occurrence, being found in two-fifths of all syphilitic cases. It has never been carefully studied until lately with the aid of the laryngoscope. The parts of the larynx affected are swollen: when the syphilis is advanced, the tumefaction may become general. It is thus a grave form of the disease, intermediate between secondary and tertiary syphilitic laryngitis. Ulcerations are frequent, usually seated upon the epiglottis, particularly on its free border. They are somewhat large and of an irregular shape. Occasionally they are deeply excavated. The swollen parts may remain a long time in that condition; sometimes even the tissues become indurated and degenerate in a definitive fashion. The duration of the affection is from two weeks to two months; sometimes, however, relapses are frequent. The diagnosis, which presents no difficulty, is based on the occurrence of the ulcerations and on the coexistence of other signs of syphilis. The prognosis is favorable; the treatment is general and local. The latter consists in the application of ten to twenty per cent. solutions of nitrate of silver.

Carbolic Acid Applications in Erysipelas.—Subcutaneous injections have already been employed, and not without success, about the borders of the parts involved in cases of erysipelas. In private practice this method cannot be employed, at least in erysipelas of the face. The following formula, which has been employed for some years by Dr. Rothe, of Altenburg, seems, if not to arrest the course of erysipelas, at least to abridge considerably its duration and to lessen its gravity. Dr. Rothe bathes the affected surfaces with the following liniment:

℞ Acidi carbolici, gr. xv;
Alcoholis, ♏xv;
Ess. terebinth., ℥ss;
Tinct. iodini, ♏xv;
Glycerinæ, ℈iv.—M.

These applications are quite neutral; they do not even cause heat of skin. From the next day it is pale. This plan does not, any more than previous methods of local treatment, prevent the extension of the disease elsewhere, but in bathing the affected surfaces a rapid retrocession is obtained, so that erysipelas of the face lasts only three or four days. The places bathed every two hours are covered with a thin layer of cotton kept in place by a bandage. The various internal symptoms are to be combated with the usual remedies.

Fracture of the Palatine Arch.—Dr. Apicella (*Le Réveil Méd.*, 1881, p. 290; from an Italian source) gives the case of a man who was kicked by a horse on the right jaw. Epistaxis followed. The soft parts were bruised without solution of continuity in the skin; there was abnormal mobility of the right half of the palatine arch and the superior maxilla, which last was entirely displaced. Intense pain was caused by any attempt at palpation; the teeth on this side were loose. The diagnosis of longitudinal fracture of the hard palate was made. The treatment consisted at first of bladders of ice externally, and soft food. Three days later, the tenderness of the parts was much decreased, and the fragments could be replaced. This having been done, wire ligatures were run through between the teeth of the fractured and those of the neighboring sound parts of the maxilla. A bit of cork was then shaped to fit the two dental arches, and was applied between the two maxillæ, being retained firmly in place by a bandage. Cold applications were continued, with liquid food, and the patient was forbidden to talk or to masticate. On account of his indocility it was necessary to re-apply the wires at this stage; but at the end of twenty days union was complete.

Reflex Urinary Paralysis.—At a recent meeting of the Société de Chirurgie (*Le Progrès Méd.*, 1881, p. 29) M. Marc Sée read a report respecting a man who, after a blennorrhagia of six or seven weeks' duration, was suddenly seized with difficulty of urination. After exploration and catheterism, the physician, Dr. Dieu, diagnosticated a rapid stricture. Catheterism became more and more difficult, and internal urethrotomy was decided upon. The impossibility of introducing a director caused the operation to be postponed.

Meanwhile, the lower limbs lost power rapidly. Catheterism having been once more attempted, M. Dieu at last perceived certain rugosities which led him to suspect the presence of a urethral calculus situated behind a stricture and acting as the cause of a reflex paralysis. After various ineffectual attempts to push the calculus back into the bladder, external urethrotomy was practised upon a conductor, resulting in the removal of a calculus one centimetre long by three millimetres in diameter. The paraplegia—which, it is proper to say, had already begun to improve—rapidly disappeared after the operation.

Action of Salicylated Camphor.—Dr. Lajoux, in searching for a surgical dressing which would fulfil the double object of acting on the albuminoid ferments and on the inferior organisms, found that salicylic acid would fulfil the first of these indications and camphor the second. He therefore conceived the idea of combining the two, and has produced a compound to which he has given the name of salicylated camphor. Dr. Henrot (*La Presse Méd.*, 1881, p. 25; from *Union Méd. et Sci. du Nord-Est*) has studied the therapeutic properties of this compound with decidedly satisfactory results. In a case of ulcerative lupus occurring in a syphilitic patient, where the sores had resisted internal treatment and had not been affected by the local remedies used, a pomade of salicylated camphor caused the ulcers to put on an improved appearance within one or two days, the patient being entirely cured in a little more than a month. In the case of a phagedænic ulcer of the fourchette in a young woman, lasting six months and destroying a large quantity of tissue, a cure was effected by this remedy in a fortnight. Dr. Henrot suggests its employment in superficial epitheliomata and in indolent leg-ulcers.

Nitrite of Amyl in Cystitis.—Weisser (*Med.-Chir. Centralbl.; Le Réveil Méd.*, 1880, p. 259) calls attention to the antiseptic properties of nitrite of amyl. He presented before a German medical society a bottle containing urine which had been preserved without alteration for three years, the cork only having been moistened with nitrite of amyl. Weisser has also proved the effective action of nitrite of amyl in cystitis. A man of sixty had suffered for five years with chronic catarrh of the bladder. Injections of twenty centilitres (6½ oz.) of a solution containing three drops of nitrite of amyl were made twice daily with the aid of a Nélaton's catheter. Antispasmodics were administered meanwhile to relieve the tenesmus. At the end of six weeks the patient was entirely cured.

Scrofula and Tuberculosis.—In the course of a discussion had on this subject recently in the Société Médicale des Hôpitaux (*Bull. Gén. de Thérap.*, 1881, p. 34) M. Rendu concluded his remarks with the following statement:

1. The so-called tuberculosis nodule is not a specific element; it is found in a number of accidental neoplasmata.

2. Scrofula is a true diathesis, characterized by a series of variable manifestations upon which it impresses a special physiognomy.

3. Tuberculosis, on the contrary, is not a diathesis; it presents itself with the aspect of the parasitic diseases, always ready to germinate when the organism becomes debilitated.

4. The relations of scrofula and tuberculosis are nothing more than those of seed and soil: scrofula is the soil, tuberculosis the parasitic germ.

Hypodermic Injection of Metallic Mercury in Syphilis.—Dr. Luton uses this method with success. He shakes one to two globules of mercury with sixteen minims of glycerin in a bottle, and injects under the skin. By amalgamating certain metals with the mercury, these also may be introduced hypodermically.

Parasite in Lepra.—MM. Hillairet and Gaucher have communicated to the Société de Biologie the result of their preliminary experiments instituted for the purpose of ascertaining whether or not a parasite exists in the blood of leprous patients.

After taking precautions to prevent the introduction of foreign fungi, these investigators found the bacteria of leprosy multiply and develop under their observation, giving rise to chains of articulated micrococci, and to simple and ramifying filaments, presenting the ordinary appearance of the fungoid lower organisms.—*Le Progrès Méd.*, 1880, p. 1039.

Snow-Blindness, according to Dr. Reed, of Detroit, can be cured by the administration of nitrite of ethyl.—*Canadian Journal of Medical Science.*

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, FEBRUARY 26, 1881.

EDITORIAL.

PROFESSIONAL SECRETS AND THE LAW.

WE desire to call especial attention to a letter from Dr. Sturgis, of New York, in another column of this issue, because it very ably assaults the position assumed by this journal on a very important subject. There is no more delicate situation in which a physician can be placed than that of the case detailed by Dr. Sturgis. Yet we think the case is not altogether to the point, or, at least, does not afford an objection to a properly-worded law. The immediate context of the paragraph quoted from the code of 1876 is not known to us, but, certainly, in a rightly-constructed code either the paragraph itself or its context should show that the witness-box of a court of justice is referred to, and not the necessary relations of daily life.

Further, we doubt very much whether even the New York law would be influential in preventing revelations in such a case as the one mentioned. Most physicians practising in a State where there were no legal restrictions would hesitate very seriously about making any revelations concerning their syphilitic patients even to a *fiancée*. If they did make such revelations, the law of slander would at least stand *in terrorem* over them, and the fear of it, with the sense of betrayal of trust which must come to a physician so acting even to save an innocent woman, would lead to the disclosures being made in an indirect rather than a direct manner; and we fail to see why this could not be done in either instance. It is, of course, highly improbable that a man would actually commence a libel suit against the physician; the necessary self-exposure and ruin of character would deter; but this would deter just as much from a prosecution under the New York statute. Again, very probably a judge would decide the disclosure "a privileged communication," and therefore, if true, harmless to the man making it. Public opinion would be too strongly in favor of the doctor for him to be sacrificed, but certainly some loophole also would be found in New York, for it is a gross libel to say that—at least in American courts—justice is blind; or, perhaps, if justice be blind, lawyers and judges are so lynx-eyed that they can always find escape when they wish to and when public opinion demands it.

Of course, occasions would arise in which the law would work hardship, or, possibly, injustice; but we still maintain that these cases must be few, and that their rare occurrence is less painful, less deleterious to the general medical profession and to the individual physician, than the present code, which attempts to make the doctor a legal spy upon those who come to him, and requires him, on penalty of hard labor and the striped jacket of a convict, to act as a detective for the Attorney-General, and report every case of abortion, etc., which comes to his knowledge.

The objections urged by Dr. Sturgis can, it seems to us, be overcome by the alteration of a single word in the law, and we earnestly call the attention of the committee of the State Society to this: let the word "compelled" be substituted for "allowed," and all proper protection and latitude are given to the conscientious physician. The paragraph would then read:

"A person duly authorized to practise physic or surgery shall not be compelled to disclose any information," etc.

PERFUMED CARBOLIC ACID.
Carbolic acid, ℈i;
Oil of lemon, ʒi;
Alcohol, ʒiv.

THE LIBRARY OF THE COLLEGE OF PHYSICIANS.

EVERY lover of medical culture must be well pleased by the growing interest in medical libraries in this country. Both Boston and New York seem to be stirred up in this matter, and, indeed, under the energetic efforts of Dr. Chadwick, in the former city almost a *furore* has been created.

We are delighted, however, to know that our own city still leads. There are now in the library of the College of Physicians nearly twenty-five thousand volumes, of which six thousand are in the Lewis Library. We believe that all the books are in excellent condition, and, after much delay and some abortive attempts, a card authors' catalogue is being rapidly and carefully prepared. It is to meet the expenses of this catalogue that the annual dues of the College have been raised to fifteen dollars; and, the members once accustomed to such payment, there will no doubt be a considerable annual surplus for the purchase of books when the money is no longer needed for cataloguing.

We trust that no attempt at a subject catalogue will be made. Dr. Billings has rendered this an absolute waste of time and money. If the latter article should prove to be embarrassingly plenty at the College, a little of it might well go to help the Index Medicus, which can always be employed as a continuous subject catalogue by ticking with ink such references in it as are in the College library.

CORRESPONDENCE.

February 12, 1881.

TO THE EDITOR OF THE PHILADELPHIA MEDICAL TIMES:

DEAR SIR,—From an item in the *New York Medical Record* I note that the medical profession of Pennsylvania, with the encouragement of the *Philadelphia Medical Times*, is trying to secure the passage of an act not only to render knowledge acquired by a physician during professional attendance a privileged communication, but also to prevent a physician from using such knowledge in any way, shape, or manner.

The argument made in support of such a law is that such a one has lasted for some time in New York State with satisfactory results. Such, however, is not the case. In the last published report of the Transactions of the State Society of New York (1880), the president, Dr. Didama, of Syracuse, in his inaugural address, makes the following remarks, which, as they are so pertinent to the matter in hand, I shall quote in full:

"Some modification seems desirable of the statute forbidding physicians from divulging any information acquired at the bedside of the patient.

"The code of 1876, section 834, reads, 'A person duly authorized to practise physic or surgery shall not be allowed to disclose any information which he acquired in attending a patient in a professional capacity, and which was necessary to enable him to act in that capacity.'

"On the face of it this statute seems to shut the mouth of the educated physician trained to habits of reticence, while it leaves unrestrained the babbling tongue of every unprincipled quack who happens to hold a bogus or forged diploma, and who is, consequently, not 'duly authorized.'

"The courts hold not only that a physician is forbidden to divulge any knowledge affecting the character or reputation of his patient, but that he shall not be permitted to testify to any information which he may have received from the sick person regarding any disease whatever. Gross injustice may result, and probably has resulted, from the enforcement of this law. In one instance within the knowledge of the speaker, where a patient sued a druggist for dispensing too large a dose of medicine, the attending physician was not only prohibited from testifying to the actual facts which he had observed, but was instructed by the learned judge to base his opinion, as an expert, solely on a set of symptoms detailed by the patient and his wife,—symptoms which the physician knew did not exist and could not have been produced by the dose in question.

"The outcome was an unjust and exorbitant verdict against the defendant."

Here, then, it is distinctly asserted that injustice was wrought by this law, or, certainly, by the interpretation of the law, and the physician was made, and in other cases is liable to be made, an unwilling accomplice in what he knows to be a piece of gross injustice.

Nor is this all: he may, by this tying up of his tongue, be made the tool of some unprincipled scamp, and by his silence seem to give assent to what he knows is a piece of downright rascality. The following corre-

spondence, which is taken from the *New York Medical Record* of October 19, 1878, will perhaps illustrate my meaning and the dangers which attend the act as it at present stands. The piece is headed "Professional Secrets and Professional Obligations," and is addressed to the editor of the *Medical Record:*

"I find such a difference of opinion between medical men as to the responsibility of a physician to his patient in certain circumstances that I am induced to ask for a brief space in the columns of the *Record* to refer to the subject.

"It is a subject of vital importance, and should be seriously considered by those whose lives are devoted to the cure and *prevention* of disease.

"A young man, while under treatment for constitutional syphilis, brought to his physician a lady suffering from some slight temporary ailment. Upon leaving the office, he remarked in effect, 'Doctor, I wish you to cure this young lady soon, as we expect to be married shortly.' The doctor took occasion privately to remonstrate very emphatically with the young man, informing him of the evil consequences which were sure to follow. The reply was, 'I cannot help it: the invitations are out, and I cannot withdraw.'

"The remonstrance was unheeded, the marriage accomplished, and now 'the most beautiful young lady' the physician had ever seen is suffering with syphilis in a severe form, the doctor having reason to fear grave, and perhaps fatal, complications. Thus, through ignorance on the part of the lady, criminality on the part of the man, and '*professional obligations*' on the part of the medical adviser, was this work accomplished."*

So far as the legal aspects of the case go, the physician was, in my belief, right, entirely right; but as regards equity, ah! that is another matter, for many of us are sadly aware that law and equity are not by any means synonymes. The law as it stands at present is a gross injustice to all concerned: it gags the mouth of the reputable physician, but permits the gabble of the charlatan. Note well, I pray you, "a person duly authorized to practise," etc. The charlatan is not "duly authorized." It does not protect the physician as a witness, for, while the law seems so to do, the astute lawyer will call upon him as an expert and get all he wants out of him, and often without any pecuniary return to the physician.

More yet. The law converts the family physician into a wolf in sheep's clothing. He knows all that goes on below the surface; he appreciates the danger, he realizes the dreadful consequences, and yet the law, as now applied, forces him into being a scoundrel. Come; put the *argumentum ad hominem.* How would those of us who have marriageable female relations like to see any one of them engaged to a man whom we knew to be diseased, and whom we could not warn her against for legal reasons or professional obligations? And after the deed is done, how would the doctor feel while looking at the wreck he had helped to make, knowing that but for the law he could have at least done his duty by giving a note of warning? In the parable of the man who fell among thieves most of us are accustomed to regard the priest and the Levite with feelings of contempt; let us as physicians, then, see that we do not by any voluntary act place ourselves in a similar position.

The Medical Society of the County of New York, so far from being satisfied with the law, to its credit be it said, instructed its delegates to request the State Society to examine into the expediency of urging the abolition of this law. What the result may be no man can say; but one thing is certain,—that in New York City many regard the law as unnecessary, injurious, and unjust.

With many apologies for intruding this long letter upon you,

I am, with great respect,
Your obedient servant,
F. R. STURGIS, M.D.

16 WEST 32D STREET, NEW YORK CITY.

* The rest of this article is omitted, as not pertinent to my argument.—F. R. S.

PROCEEDINGS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, JANUARY 13, 1881.

THE PRESIDENT, Dr. S. W. GROSS, in the chair.

Sarcoma of testicle. Exhibited by Dr. H. F. FORMAD.

THIS tumor was removed from a young man by Prof. Agnew, in the surgical clinic of the University Hospital, in October last. I failed to obtain a complete history of the case, and learned only the following from the gentlemen of Dr. Agnew's clinical service. The patient was about 17 years of age, and in apparent good health. The tumor developed within one year, slowly at first, but later growing more rapidly, reaching, at the time of the operation, the size of a large fist. At no time was there any pain; and the only inconvenience experienced by the patient was from the weight and the size of the tumor. The skin was not involved.

On examination, after removal, the tumor showed itself to be developed from the tissue of the left tunica vaginalis testis: the structure of the testicle was not at all involved, but the whole testicle of that side was simply pushed up into the upper part of the sac, and was much atrophied. The tumor had a thin capsule, was elastically hard in consistence, and on

section presented a white fibrillated appearance. Microscopical examination revealed the typical structure of large-celled spindle-celled sarcoma.

Dr. S. W. GROSS thought that in this particular instance the tumor had started in the connective tissue between the dartos and tunica vaginalis testis. Sarcoma may arise from the connective tissue of any part, but he considered that the site of the present one was unusual. He also related a case seen by Prof. Gross, presenting the following history. The gentleman had been operated upon in Kentucky for a sarcomatous growth, as was then thought, connected with the testicle, which organ, he stated, had been removed at the operation. Upon careful examination, Prof. Gross determined that the recurrent growth for which he had been consulted was in reality a diseased testis. The former operator had doubtless removed a growth like the present one, which resembled in form a tumor of the testis, and which probably sprang from the connective tissue. Prof. Gross, in operating for the recurrent growth, tied the cord, thus demonstrating the presence of the gland. The wound healed slowly, recurrence took place, despite the use of the actual cautery, etc., and death finally ensued.

Dr. H. F. FORMAD had had no opportunities of observing patients affected with sarcoma of the testis, but it could not be a very rare disease, since he had had sent to him for examination in the past few years no less than nine specimens. Of these, two sprang from the connective tissue; four were of the round-celled variety, and were associated with more or less cartilage; two consisted of ordinary spindle-cells; while one was of the large spindle-celled variety. One of the specimens seemed to have had its origin in an inflammation set up by the injection of iodine into a tumor of the testis. Dr. C. T. Hunter had been consulted some few months subsequent to this, when he found that a number of large nodular growths had formed, which induced him to castrate the man. Microscopically these masses were seen to be sarcomatous, while the bulk of the tumor consisted merely of new inflammatory tissue. In this case, thirteen months after the operation the glands of the neck became involved. In another case, where he had been requested to examine, post mortem, the supposed tuberculous testis of a man dead from phthisis, he had, to his surprise, found that the organ was affected with sarcoma.

Dr. S. W. GROSS asked Dr. Formad whether in his examinations of the round-celled variety he had ever found any traces of gland-structure.

Dr. FORMAD replied that he had in one case.

Dr. J. H. BRINTON recalled the case of a prominent gentleman of this city upon whom he had operated some three or four years back for sarcoma of the testis. The wound healed readily, but in nine or ten weeks the retro-peritoneal glands became involved, a little later those of the neck, and death rapidly occurred.

Sarcoma of testicle. Exhibited by Dr. J. H. BRINTON.

J. L., æt. 40 years, a farmer by occupation, came under my care in May, 1880. He asserted that the enlargement of his testicle had commenced three years previously. No history of traumatism or other exciting cause could be ascertained. Castration was performed May 5, 1880, and the patient died of pyæmia, June 1, 1880.

A microscopic examination by Dr. S. W. Gross showed that the tumor consisted of large spindle-cells, with here and there a fibrillated intercellular substance. The seminal tubules were dilated, deformed, and lined with columnar epithelium.

Dr. S. W. GROSS then read a paper, accompanied by the specimens, upon "Two Cases of Round-Celled Sarcoma of the Testicle, with Local Recurrence and Secondary Deposits after Castration."

Case I.—A laborer, 35 years of age, was sent to me on the 8th of June, 1880, by Dr. T. W. Taylor, of Kennett Square, on account of a smooth and uniform enlargement of the right testis, which was of the size of a large cocoanut, of an elastic and here and there pseudo-fluctuating consistence, and the seat of occasional pain. About three years and a half previously the testis became greatly swollen from the man being jammed between the wheels of a wagon; but the inflammation gradually subsided, leaving, however, the organ about double the size of its fellow. Fifteen months ago it began to increase, until it finally attained the volume above mentioned. After castration the albuginea was seen to be pervaded by immense tortuous veins; but that tunic was not thickened, nor was the cord involved. Section was attended with the escape of a dirty yellowish fluid, and the cut surfaces were of a translucent grayish tint, and mottled by large areas of blood-stained broken-down tissue and by small spots of caseous degeneration, and they also contained a few cysts. The entire upper portion of the tumor was converted into a cheesy mass as large as a billiard-ball. Microscopical examination disclosed a small round-celled tissue, the intercellular substance of which was granular. There was no trace of seminal tubules.

At the expiration of three months the man began to complain of pain in the belly, and soon afterwards Dr. Taylor discovered a tumor as large as an orange just below and to the right of the umbilicus. The suffering soon became severe and constant; temporary paralysis and œdema of the lower extremities ensued; the bowels could only be moved by purgatives; and nausea and vomiting, which came on every afternoon, continued throughout the night unless he was fully under the

influence of morphia. When I saw him, on December 4, the symptoms had not abated. He was growing thin, had no appetite, and his face was becoming icterode. A small recurrent growth occupied the scrotum. The abdominal tumor, which I was informed had doubled in size in the last ten days, was as large as a child's head, filling the right lumbar and nearly the entire umbilical region, and had an elastic feel. Exploration of the chest disclosed the physical signs of secondary deposits in the upper lobe of the right lung. Death ensued on the 20th of December; but an examination of the body was refused.

Case II.—A farmer, 33 years of age, consulted Prof. W. H. Pancoast on account of a tumor of the right testis, which he said was of four years' duration and had developed in consequence of a blow received in climbing a fence. Its consistence was elastic, its outline smooth and pyriform, and its volume equalled that of a small cocoanut.

The organ was removed in the usual way on the 24th of February, 1880. The cut surfaces had a medullary aspect, and the minute structure was that of a granulation sarcoma, with entire disappearance of the seminal tubules.

The wound closed promptly, but in two months there was recurrence in the stump of the cord. Early in September the growth had attained the size of a fist, when Dr. Pancoast removed it by laying open the inguinal canal and ligating the cord at the internal ring. The wound healed in four weeks, but on his return to the hospital of the Jefferson Medical College, October 22, it was found to have opened, and there was a fungous mass in the groin as large as an orange, which was scraped away, and the parts freely touched with chloride of zinc. Shortly afterwards a tolerably firm and painful tumor was detected in the retroperitoneal glands of the corresponding side, on which account nothing further was done in the way of surgical interference. At the date of his discharge, December 1, the abdominal tumor was as large as a child's head, and the glands of the left supraclavicular fossa were as big as an egg. The man was decidedly anæmic, and he had been suffering for several weeks from gastralgia, loss of appetite, and almost constant nausea and vomiting.

Remarks.—The cases which have been presented to the Society this evening possess many characters in common, and two, namely, that of Dr. Pancoast and my own, are especially interesting as being examples of reproduction of the disease in the abdominal lymphatic glands and of local recurrence shortly after operation.

Implication of the glands is a remarkable feature in connection with sarcoma of the testis when considered in relation to the immunity of the glands in sarcoma of other organs. In sarcoma of the breast, for example, as I have pointed out in my "Treatise on Tumors of the Mammary Gland," involvement of the axillary glands is not met with during life, nor does post-mortem inspection disclose that the deep glands are converted into metastatic tumors. In the disease under consideration, on the other hand, secondary glandular growths are more common than they are in carcinoma of the testis, so that they afford no aid in the differential diagnosis, as is the case in carcinoma and sarcoma of other organs. From an examination of 40 examples of sarcoma of the testis which I have collected from various sources, I find that the histories are complete in 26. Of these, three were well after castration for an average period of six years, two being free from recurrence for two years, and one for fourteen years. Three pursued a natural course, and post-mortem inspection showed secondary tumors in the lumbar glands, bones, and subcutaneous tissue in one, and visceral tumors, without glandular enlargement, in two. Twenty were castrated; of these, one—the case of Pancoast—is still living, with local recurrence and enlargement of the lumbar and supraclavicular glands, and 19 are dead, with glandular implication and visceral deposits, especially in the lungs and osseous system, in 16. Hence, of the 26 cases, in 18, or 69 per cent., the retroperitoneal glands were the seat of secondary deposits; and I find that they are involved in 62 per cent. of the examples of carcinoma. In several of the cases the absence of glandular affection may be explained, as is pointed out by Mr. Butlin in a valuable paper on the subject in the *Lancet*, August 28, 1880, by the short duration of the disease.

The great frequency of the development of secondary growths in the retroperitoneal glands into which the lymphatics of the testis empty, tends to show that sarcóma originates from the endothelial cells of the large lymph spaces which surround the seminal tubules, rather than from the membrana propria of the tubules.

Local reproduction in the stump of the cord or in the adjacent tissues, which constitutes the second interesting feature of the disease, is so uncommon that it was met with in only five of the twenty-three cases in which the histories are complete after operation.

As specimens of sarcoma of the testis have been so rarely exhibited to the Society, I take this occasion to analyze still further the cases which I have collated and to compare them with those of carcinoma. Seventy-five per cent. of all examples of sarcoma occur before the forty-first year, and 25 per cent. before the eleventh year, three having been observed respectively at eight, ten, and eleven months. Fifty-six per cent. of all cases of carcinoma are met with before the age of 41, and 6 per cent. before the age of 11. In sarcoma the epididymis is more early implicated, its growth is more rapid, and its volume is greater; the

scrotum is not adherent, and it ulcerates in only 3 per cent. of all instances; and the cord is involved in the disease in 35 per cent. In carcinoma the scrotum is adherent in 36 per cent. and ulcerated in 9 per cent. of all examples, and the cord is implicated in 63 per cent. of all specimens. In sarcoma the tunica albuginea is rarely thickened, while that occurrence is the rule in carcinoma. In the former affection both testes are not uncommonly affected, while one alone is involved in the latter disease. Finally, the presence of cartilage is so frequent in sarcoma, and so rare in carcinoma, that it goes far to establish the diagnosis.

Of the 40 cases, 22 were of the round-celled, 15 of the spindle-celled, and 3 of the mixed variety.

The prognosis of sarcoma is eminently unfavorable. Thus, of the three cases which pursued a natural course the average duration of life was less than ten months. Of twenty-three patients subjected to operation, three were living at the date of the last reports for an average period of six years (and, strange to say, they belonged to the round-celled variety), one was still alive with local and general reproduction, and nineteen died of generalization of the disease, their average life having been twenty-seven months. Hence castration not only prolongs life, but may effect a cure. The total duration of life from the first observation of the disease until its termination after operation averaged eighteen months for the round-celled and twenty-eight months for the spindle-celled variety; and the former was followed by metastatic tumors in eighteen per cent. more of instances than was the latter.

REVIEWS AND BOOK NOTICES.

LECTURES ON THE SURGICAL DISORDERS OF THE URINARY ORGANS. DELIVERED AT THE LIVERPOOL ROYAL INFIRMARY. By REGINALD HARRISON, F.R.C.S., Surgeon to the Infirmary, formerly Lecturer on Anatomy and Surgery at the School of Medicine, and Surgeon to the Liverpool Northern Hospital. Second Edition, considerably Enlarged. London, Churchill; Liverpool, Adam Holden. Octavo, pp. 398. 1880.

In the volume before us, consisting of thirty lectures upon the surgical disorders of the urinary organs delivered at the Liverpool Royal Infirmary, Mr. Harrison has greatly extended and improved the former edition of his work. The first eleven lectures are devoted to the study of urethral stricture, its pathology, consequences, and treatment, and these matters have been discussed by the author in an essentially practical manner. The key to his treatment is found in the statement —which is, we think, concurred in by the great majority of surgeons—that when once a stricture has become cicatricial in its character its nature may be palliated or adapted, but the absolute integrity of the urethra can never be absolutely restored. The inconveniences of the scar may be moderated, but the scar itself cannot be obliterated.

The term stricture the author reserves to what is ordinarily spoken of as organic stricture; spasm and inflammation he regards simply as superadded conditions. Of stricture he makes two forms,—the mucous and submucous,—the former being limited to the lining membrane of the urethra, the latter to the tissues outside of the mucous membrane. The indolent, irritable, contractile, and hemorrhagic strictures are carefully dwelt upon, the treatment of the irritable form being best conducted by Holt's method under anæsthesia, while that of the contractile variety can be most effectually accomplished by section,—urethrotomy either external or internal. For the other forms of stricture Mr. Harrison counsels gradual dilatation, employing for that purpose filiform, flexible, and metallic bougies, and availing himself, in proper cases, of the plan of continuous dilatation. At page 115 the author speaks of Dr. Otis's method of treatment, with which our readers are so familiar. He states, however, that his observation is not favorable to this method, and adds, "I have already expressed my belief that stricture in its earliest form is curable, provided that dilatation by bougies is sufficiently carried out. Hence I reserve for internal urethrotomy cases which are not likely to be benefited by dilatation, and these, as far as my experience goes, do not include strictures in their early stage."

The lecture upon the surgical anatomy of the urethra is very valuable, and the attachments of the various fasciæ are carefully given, and their influence in guiding urinary extravasations is lucidly set forth, and well illustrated by the cut at page 29. The fourth lecture is devoted to the examination of the urine, its acidity, alkalinity, the occurrence of ammoniacal decomposition, and the resulting therapeutical suggestions. Urethral fever forms the subject of the sixth lecture. In the opinion of the author, this condition depends, to a greater or less extent, upon renal engorgement or thrombosis, and its treatment may be best conducted by remedies looking to the restoration of the renal excretion. He advises, therefore, vapor baths, hot baths, blanketing, dry cupping, and other local means of that nature, and, internally, the use of the infusion of digitalis, as suggested by Dr. Gouley, of New York. He adds, moreover, that prevention is better than cure, and expresses his belief that if after every operation likely to cause urethral fever a free state of diaphoresis should be established by hot blankets and suitable temperature we should hear but little of urethral fever.

At page 95 we find a most important statement, with which our own experience largely concurs,—namely, that urethral fever depends upon nerve-shock, and that where anæsthetics have been used for catheterism there is almost a complete exemption from this disagreeable condition. In the lecture devoted to retention of urine from stricture the use of the filiform bougie and turetted catheter is advised before the surgeon arrives at the conclusion that the stricture is for the time impassable. We think our author might in this matter have gone farther than he does, and we would suggest, from our own experience, that in the worst cases of retention it is probably always possible to introduce, under anæsthesia, a whalebone filiform bougie. If such an instrument be once carried through the stricture and into the bladder, the urine will surely escape by its side sufficiently to relieve the bladder for the time, and, in the course of a few hours, to evacuate the organ entirely. We believe that the use of the aspirator is rarely called for, and certainly not until the means mentioned have been fairly tried.

We are unable, within the limits assigned to this short notice, to follow our author in his most interesting remarks upon internal, external, and subcutaneous urethrotomy, urethral abscess, extravasation of urine, perineal fistulæ, and foreign bodies in the urethra and bladder. We cannot forbear, however, from noticing the chapter upon irritable bladder, which we especially recommend to the consideration of our readers. The lectures upon hypertrophy of the prostate and its treatment are also well worthy of perusal. In the treatment of obstructions of this nature near the neck of the bladder Mercier's treatment by internal incision of the prostate is alluded to, but we are told that it can scarcely be said "at present to have a place in the operative surgery of the urinary organs." The use of ergot, as advised by Dr. Atlee, of this city, in cases of difficult micturition in connection with enlarged prostate, is favorably spoken of. The remainder of the work is occupied with the study of calculous disorders, lithotomy, lithotrity, lithoplaxy (which the author highly esteems), the surgery of the kidney, vesical and prostatic tumors, and sundry other affections.

All of these topics are treated of in a practical manner, and every reader of these excellent lectures will feel, we are sure, that his time has not been misspent. The author has, we think, succeeded in making a most useful book, one to which any surgeon may turn with pleasure and profit. In some instances, perhaps, his views may be peculiar, but they are his own, and, coming from one who has thought much and has had much experience in the active practice of the surgery of the urinary organs, they must command respect. We sincerely wish this book the success it deserves, and we congratulate the author upon the result of his labors in preparing this new edition.

HAND-BOOK FOR CORONERS. Containing a Digest of all the Laws in the Thirty-Eight States of the Union, together with a Historical *Résumé* from the Earliest Period to the Present Time, a Guide to the Physician in Post-Mortem Examinations, and Valuable Miscellaneous Matter never before collated. By JOHN G. LEE, M.D., Coroner's Physician of the City and County of Philadelphia, Pa. Published by William Brotherhead, Agent, 129 South Thirteenth Street, Philadelphia, 1881. 8vo, pp. 288.

The author of this little volume, with its somewhat elongated title, announces in his preface that he "makes no pretensions to originality," but that his "almost sole duty has consisted in the collection, selection, and arrangement of the most interesting material at his command." This, of necessity, disarms all criticism of the book as an original production. The "material" thus used appears to have been judiciously employed for the purposes designated. The author gives us a pretty full history of "coroner's law" from its earliest inception, in the time of England's great King Alfred, down to the present era, including the laws of all the different States of our own country. In fact, more than half of the volume consists of a detail of these latter State laws, which exhibit a general similarity of character, while at the same time showing some points of difference: thus, in some of the States the coroner's law is more stringent than in others, and there is a notable diversity in the *fees* of the office. These latter fluctuate between one dollar (for an inquest) in West Virginia and twenty-five dollars in Louisiana. In the cities of Philadelphia and New York, instead of a fee paid for each separate inquest, there has within a few years been substituted a regular salary for the coroner,—six thousand dollars in the former city and five thousand dollars in the latter, exclusive of contingent expenses.

The chapter on the "Coroner's Physician" contains much interesting matter, but only the usual subjects discussed in the standard works of legal medicine,—such as medical evidence, expert testimony (in the latter, by the way, the author is mistaken when he asserts that in Pennsylvania the expert may *legally* demand an extra compensation), the mode of making autopsies, the signs of death, etc.,—all of which, however, are given with sufficient precision and judgment. The book concludes with a series of anecdotes—some of them quite racy—of coroners and their juries. G.

PRACTICAL AND ANALYTICAL CHEMISTRY. By FRANK CLOWES, D.S.C. Lond. H. C. Lea's Son & Co., Philadelphia.

This small treatise is a hand-book for use in the laboratory, detailing a long series of

experiments, analyses, etc., for use by students of chemistry. Whilst very valuable in the position for which it is intended, to the busy doctor of to-day the manual is chiefly interesting as an evidence of progress and as provocative of energy towards the medical students of the present. The book is neatly gotten up as a reprint from the third London edition.

ROCKY MOUNTAIN HEALTH-RESORTS. An Analytical Study of High Altitudes in Relation to the Arrest of Chronic Pulmonary Disease. By CHARLES DENISON, A.M., M.D., etc. Second Edition. Boston, Houghton, Mifflin & Co., 1881. Pamphlet, 12mo, pp. 192.

Dr. Denison's personal and professional experience in the Rocky Mountain region has induced him to write this little book, with the view of guiding both the invalid and the patient in the choice of a health-resort. After an introductory chapter on consumption and its prevalence, the author goes on to discuss climates of low, medium, and high altitudes in successive chapters, and then continues by a full description of the climatic characters of the Rocky Mountain region, its mineral springs, etc., the remaining chapters being devoted to the consideration of the various disease-conditions apt to be influenced by climate, together with the effect which the Rocky Mountain climate in particular produces on those conditions. The two last chapters are devoted to precautionary measures, hints for invalids, ranch life, camping out, etc. The book is one of the most valuable which has yet appeared on the subject of which it treats.

JOHN HUNTER AND HIS PUPILS. By S. D. GROSS, M.D. Philadelphia, Presley Blakiston, 1881.

This is a very entertaining and thoughtful account of the life of John Hunter, with notices of some of his most eminent pupils, the whole being comprised in a book of one hundred and six pages and prefaced by a very excellent phototype of Reynolds's famous portrait of Hunter. The study is worthy of both its author and its subject.

DIAGRAMS OF THE NERVES OF THE HUMAN BODY. By WILLIAM HENRY FLOWER, F.R.S. Third Edition. Presley Blakiston, Philadelphia, 1881.

We are very well pleased to announce a new edition of this practical and well-known brochure. The diagrams are very nearly the same as in the last edition, having been only amended in a few points.

CHLORATE OF POTASSIUM IN MARASMUS.—Dr. Herbert Sum has used this drug in two- or three-grain doses four times daily in an infant a few weeks old with very good result. —*British Medical Journal.*

GLEANINGS FROM EXCHANGES.

DANGERS OF UTERINE MANIPULATIONS AND OPERATIONS.—Dr. George J. Engleman, in a paper read before the State Medical Society of Missouri, referred to the following instructive cases. The first was of a married lady suffering with retroversion and syphilitic ulceration of the os. During the treatment the uterus had been frequently and easily replaced by means of the sound, and held in place by cotton tampons in the posterior cul-de-sac. After an interval of several months the patient again consulted her physician for pains in back and thighs following unusual exertion. Retroversion, but no inflammation or erosion, was found. The uterus was replaced, as usual, after the introduction of the sound, and the physician advised her to lie down quietly until he should see her upon the following day. This was at 11 A.M. At 4 P.M. he was hastily summoned, and found his patient in a state of great nervous prostration, with high fever, temperature 103°–104°, headache, nausea, and vomiting. A severe chill, lasting from 2 P.M. until 2.30 P.M., had preceded the fever. Physical examination revealed considerable abdominal distention and tenderness, with some slight tenderness about the cervix. These symptoms subsided within forty-eight hours under a treatment of opium with large doses of quinine, and steady improvement followed. The sound, as a repositor, has never been a very safe instrument.

In a second case, a patient suffering from retroversion and chronic endometritis, the uterus was movable, easily restored, and kept in position by a tampon of cotton soaked in glycerin, and every six days an application of the compound tincture of iodine was made to the womb. Two or three hours after one of these applications the patient was seized with violent pelvic pains in the region of the uterus and ovaries; they were intense, but not accompanied by any decided evidences of inflammation, although there was some elevation of temperature, tenderness on pressure, nausea, and vomiting. Within thirty-six hours the symptoms subsided, upon the use of quinine and opium, and hot applications to the abdomen. Dr. Paul F. Munde, of New York, told Dr. Engleman that he had in two instances only, out of several thousand applications of iodine which he had made, seen cellulitis arise.

The third case was that of a woman of 23, who was placed upon treatment for slight ulceration about the os uteri and a retroversion, seemingly the result of chronic metritis. During nine months of treatment various remedies were used, such as vaginal injections with sulphate of zinc, acetate of lead, and tannin. Applications to the ulcerated portion of the cervix were made with nitrate of silver and dilute acid nitrate of mercury. The latter had a good effect, but was discontinued, and

tincture of iodine substituted. The patient was rapidly improving, both locally and constitutionally, when, after one of these applications of iodine to the cervix,—which were made every two weeks without entering into the cervical canal,—she was attacked with peritonitis, and soon died, without a known cause to account for the fatal issue.

The fourth case was one of death from intra-uterine injection of iodine, made for the purpose of checking hemorrhage.

A fifth case was one of metro-peritonitis and death following an intra-uterine injection of a warm and dilute solution of tinct. ferri chloridi.

A sixth case was one of intense pelvic pain and threatened peritonitis following the use of a Davidson syringe.

Apropos of this, Dr. Engleman says, "In order to obviate the dangers and the discomforts arising from vaginal injections as ordinarily used, I advise my patients (1) to plug the central opening of the vaginal attachment; (2) to assume the semi-recumbent, better the recumbent, position, with knees drawn up; (3) never to use a strong current, whether by the fountain- or the bulb-syringe."

After adding several cases of severe accidents and death following the use of sponge-tents, Dr. Engleman remarks, "Care and cleanliness, if not Listerism, are necessary in even the most trifling uterine operations, and the strictest surveillance should be exercised over the patient during the after-treatment, even if this consists in nothing more than rest—absolute rest—and cleanliness. This is all the more necessary as a patient after a slight operation may suffer neither fever nor pain; on the contrary, the happy effect of the operation may already have shown itself: she is free from all the annoying aches and pains of which she complained before the operation, and considers herself accordingly well and at liberty to move about as she pleases.

"Rest and careful attention during the after-treatment are extremely important features; and yet, with all care, dangerous and fatal results may occur. Very few of the text-books which you may consult before attempting an operation will tell you anything of its dangers, unless it be an ovariotomy or a similarly serious undertaking. They will tell you how to operate, but will not detail the minute precautions to be observed in the operation, or counsel you how careful to be of the patient after she has been operated on, as she ceases to be an object of interest when once the aspiring surgeon has cut."—*American Medical Journal.*

A New Method of Operation for Ranula.—Dr. Krabbel (*Centralblatt f. Chirurgie*, No. 37, 1880) reports the successful removal of a large sublingual cyst by a method not hitherto described. It is well known that, apart from complete extirpation, the ordinary methods, such as puncture, the injection of irritant fluids, partial excision, etc., by no means always result in a complete cure. Krabbel recently had occasion to observe a large ranula, in which previous remedial measures had been unsuccessful. He adopted a plan of operative procedure which was suggested to him by a consideration of Volkmann's method of radical operation for hydrocele. Accordingly, the sac of the cyst, which formed an externally visible prominence, was exposed by an incision from without, and an oval piece of its wall excised. The cyst-wall was now united by silk sutures with the integument; then a second piece was incised from within, and the walls similarly united with the buccal mucous membrane. A drainage-tube was inserted, and carbolic irrigation practised. All the dressings were antiseptic. Eight days later the drainage-tube was removed, and the wound soon closed by granulation, the collapsed cyst-walls becoming united by adhesive inflammation. The external cicatrix was quite inconspicuous, and internally there only remained a little hardening to indicate the site of the former cyst.—*Allg. Med. Cent. Zeit.*, September 22, 1880; *New York Medical Record.*

Actions and Uses of certain Remedies employed in Bronchitis and Phthisis.—In an article on this subject (*Lancet*, vol. i., 1881, p. 4) Dr. T. Lauder Brunton says that as coughing is a reflex act, excited by irritation applied to a sensory nerve and reacting through a nerve-centre upon the respiratory muscles, it is obvious that it may be lessened either by removing the source of irritation or by diminishing the excitability of the nervous mechanism through which it acts. Both methods are employed in medicine. One of the commonest is that of lessening irritation by the use of glutinous and saccharine substances. These probably act by soothing that part of the irritation which is situated about the root of the tongue and the fauces, thus relieving the cough, though the irritation in the bronchial tubes or lung may remain as before. The power of substances to relieve cough depends, no doubt, to a great extent either on their covering the inflamed and irritated surface directly with a mucilaginous coat and thus protecting it from the action of the air or from irritation by other substances passing over it, or by exciting an increased flow of saliva or mucus, which has the same effect. Sedatives, as opium, hyoscyamus, and chloroform, have a certain amount of local action on the peripheral ends of sensory nerves and lessen their sensibility to impressions. This action, though slight, is increased when they are given in a mucilaginous vehicle. Of course there is also a less direct action through absorption by the stomach.

When the source of irritation is in the afferent nerves of the bronchi or of the lung itself, mucilaginous and sedative drinks are of course useless. Here vapor of conium or hydrocyanic acid tends to lessen irritability. Other inhalations, as of spray of ipecac and

essential oils and terebinthinate substances, alter the nutrition of the mucous membrane in such a way as to diminish the irritation which the abnormal condition of the membrane exerts upon the nerves. In laryngeal phthisis local applications with a brush or by blowing powders directly on the diseased surface are the best means. A useful application is a powder of one-sixth grain of morphia to two grains of starch. This mixture is placed in a tube and blown down the throat at the moment the patient takes a deep inspiration. The following prescription of Dr. Warburton Begbie is analyzed by Dr. Brunton:

℞ Liq. morphiæ hydrochlorat.,
Acidi hydrocyanici,
Chloroformi, āā ℥xviij;
Spiritus chloroformi,
Acidi nitrici dil., āā ʒj;
Glycerinæ, ʒiij;
Infus. cascarillæ
(seu infus. quassiæ), ʒij.—M.

A sixth part to be taken three or four times a day.

Here the sedatives—morphia, hydrocyanic acid, and chloroform—tend to lessen the excitability of the respiratory centre; the glycerin tends to retain the sedatives in longer contact with the throat, and acts also to some extent as a nutrient; and the nitric acid and bitter are supposed to have a tonic effect on the stomach. In what way this tonic effect is produced we cannot at present say; but we may imagine that they will in some way partially counteract the effect of the congestion which the cough produces, and, exciting appetite, will counteract the influence of the morphia. Nitric acid has also, as Dr. Brunton points out, a definite effect on the secretions of the lung themselves. Considering those drugs which tend to lessen congestion, Dr. Brunton mentions digitalis, and gives the following prescription from Beasley as used by Sir A. Crichton:

℞ Succi limonis, ʒss;
Potassii carbonat. ad saturand.;
Decoct. sarsaparillæ, ʒx;
Tinct. digitalis, ℥x ad xxx;
Mucilag. acaciæ, ʒx.—M.

To be taken every sixth hour. The tincture of digitalis here tends to contract the vessels, diminish pulmonary congestion, and lessen cough. The potash renders the pulmonary secretion more fluid and abundant. Warm food, as beef-tea, Dr. Brunton says, is a good expectorant, as also is cod-liver oil. Ice, hydrocyanic acid, and alum are recommended in the vomiting of phthisis.

Relations of Goitre to Pregnancy and Generative Derangements of Women.—Dr. Edward W. Jenks, in a very interesting article in the *American Journal of Obstetrics* for January, speaks of the comparative frequency of enlargement of the thyroid among women, and calls attention to the relation between this enlargement and certain changes in the generative organs. The connection has not until recently been touched upon by medical writers except in the most cursory manner. Regarding the etiology of goitre, its appearance, in countries where it is endemic, is coincident in most cases with the arrival of puberty. It is also probable that puberty may enter to some extent into the causation of sporadic goitre. When menstruation is once established, it frequently happens that at each return of the menstrual period the thyroid gland becomes the seat of a fluxion, more or less marked, which disappears with the cessation of the catamenia. Dysmenorrhœa and amenorrhœa sometimes influence the rapid development of goitrous tumors. These are generally firm and elastic, and may be extremely painful or quite insensible on pressure, but are almost always the seat of much discomfort during menstruation. They are, as a rule, quite amenable to treatment, and those which come most rapidly are often the first to disappear, sometimes going spontaneously.

Of all the goitres which have connection with the uterine functions by far the most numerous are those which are produced or increased by pregnancy and labor. These are not usually dangerous; although fatal cases have been reported. One form of goitre may occur suddenly in the middle of labor. After dealing with the pathology and diagnosis of thyroid tumors, Dr. Jenks goes on to speak of their treatment. First, he recommends a change of climate to a country where goitre is not endemic, and, second, a strict observance of hygienic and dietetic laws. As to medicines, iodine stands first. Interstitial injections with the following solution—iodide of potassium, one gramme; tincture of iodine, twenty cubic centimetres; distilled water, forty cubic centimetres—may also be employed. The strength of this solution may be altered by increasing or diminishing the amount of the tincture of iodine to suit the exigencies of the case. Other preparations of iodine may be used. Ordinarily a single injection suffices. Alcohol is also used in the same way. Perchloride of iron injections are used in vascular goitres, also chloride of zinc solution. Digitalis, with ergot, quinia, and iron, is recommended for internal use, and electricity has been highly recommended by several authorities. Prof. Pepper urges hypodermic injections of ergotin. A solution of ninety-six grains to the ounce is made, and fifty to seventy-five centigrammes of this may be injected every two or three days. Dr. Jenks also details various surgical operations for the relief of the affection.

Tansy-Poisoning.—Dr. Gallaher (*Pittsburg Medical Journal*, 1881, p. 22) gives the case of a patient who had taken an infusion of perhaps half an ounce of the dry herb one night before going to bed. Vomiting and purging ensued within a few hours, but in the

morning the patient felt better. By three o'clock in the afternoon, however, the vomiting and purging had recurred, together with intense abdominal pain. These symptoms continued until two the next morning, with thirst, great pain in the epigastric and umbilical region, shallow and rapid breathing, and failure of the pulse. There were neither convulsions, coma, nor paralysis. The patient's intellect was clear. She died twenty-six hours after taking the tansy.

Dr. Gallaher also gives the following case. He was called at twelve o'clock at night to a lady who had taken the oil of tansy instead of the infusion. She had been taking this substance in small doses without effect—that is, to bring on her menses—for several days, but, finding such doses inoperative, concluded to take a larger amount. Nearly half a teaspoonful was accordingly taken at about ten o'clock P.M., when about retiring. Before twelve the same night—that is, two hours after taking the oil—she was awakened by a dreadful burning and pain in the stomach and ringing of the ears. When the doctor arrived, she was cold, and for a time pulseless. An emetic of ipecac speedily evacuated the stomach, when she felt better. In a short time there was a restoration to usual health, without a return of the monthly flow.

POISONING FROM ANILINE.—Dr. Merklen reports (*Medical Press and Circular*, 1880, p. 498) the following case coming under his notice:

The toxic effect of aniline is better known by experiments on animals than by the effects of the poison observed in man. Those working in aniline-factories may exhibit the phenomena of chronic poisoning resulting from the absorption of the substance by the respiratory passages in the form of either vapor or dust; acute poisoning is rare. In the following case one hundred to one hundred and twenty grammes of pure aniline were swallowed in a liquid state: this method of absorption, with the symptoms caused by the poison, and its prompt cure, constitute the interest of the case.

A workman in a chemical factory at Clichy, on July 11, swallowed at 8 A.M. from one hundred to one hundred and twenty grammes of a mixture of aniline and toluidine, mistaking it for coffee. In spite of this he went to work as usual, without telling any one, and it was not till a quarter to ten—that is, an hour and three-quarters after the swallowing of the poison—that his fellow-workmen saw that he was stupid and motionless. Being interrogated, he told them the mistake he had made, and complained of a little headache. M. Gundelach, the chemist to the establishment, who has supplied most of these details, was immediately called, and administered .05 centigramme of emetic; the effect of the medicine was assisted by introducing the finger into the pharynx and administering large quantities of warm water. Under this treatment abundant vomiting was produced, composed of some food, water, and yellowish coloring-matter, probably unabsorbed aniline. The patient was then put to bed. About twenty minutes afterwards serious nervous phenomena appeared. The patient lost consciousness, fell into a state of coma, and appeared in a condition of general resolution, the head fallen back, lips black, face purple. Then there was contraction of the facial muscles, *risus sardonicus*, and trismus, which only permitted the introduction into the mouth of a few drops of milk with great difficulty. At this time there was no convulsion, no contraction of the limbs, pulse very feeble, coldness. This was about half-past ten, two hours and a half after the taking of the aniline. All means were used to introduce some alcohol: at length the patient swallowed a few drops, and immediately seemed to awake. This remission was taken advantage of to make him swallow a larger quantity of alcohol, and of tea with alcohol. To overcome the cold, the patient was warmed with coverings and bottles of hot water and the whole body rubbed with camphorated spirit. He regained consciousness, and vomiting returned. At half-past twelve two enemata with oil were given, without result. About two o'clock the patient again lost consciousness; the pulse became weak, cyanosis remained, though less marked than at first. About three o'clock appeared clonic convulsions of the limbs, with complete loss of consciousness; the contraction of the face and the maxilla had disappeared.

At this time the patient was taken to the Hospital Beaujon, where he was received under the care of Dr. Millard. The interne, on arrival, found him in a state of profound coma; the pupils dilated, acting little under the influence of light. Catheterism gave exit to about two hundred grammes of dark brown-colored urine. Death was considered imminent. The coma lasted all night, interrupted frequently by convulsive attacks in the limbs. During all this time the face was purple.

Next morning, at the time of the visit, the patient was awake, and complained only of severe headache; the face, especially the lips, still slightly cyanosed. No other abnormal phenomenon. Sensibility normal everywhere except in the velum palati and the pharynx, where tickling produced no reflex action. No paralysis. The patient had passed urine spontaneously. This was very dark in color, albuminous, and gave a strong alkaline reaction, while that of the evening was acid and not albuminous. No pain in the belly; no stool yet since the accident. A strong odor of aniline proceeded from the patient's bed, apparently coming from his clothing. Ordered milk, purgative enema, bath. The next day and succeeding days the headache disappeared. Urine still dark, but very slightly albuminous. The patient left the hospital after

five or six days, with no symptom remaining but the anæsthesia of the soft palate.

The blood examined the day after the accident showed nothing abnormal in the shape of the red corpuscles. Number, 4,200,000. Temperature on that day, 37.6 C. (99° Fahr.). The urine was analyzed by M. Gundelach: that of the evening only contained aniline unchanged; there was no trace of it in that of the morning, the alkalinity of which was due to carbonate of ammonium.

Remarks.—There are some peculiarities in this case. In the first place, in spite of the assertions of the patient, it can scarcely be allowed that he had swallowed more than one hundred grammes of aniline. We know, indeed, that fifteen or twenty drops are sufficient to cause in a rabbit toxic, often fatal, effects: it is probable that the patient immediately rejected some of the liquid swallowed, owing to its slight causticity. The first effects of the poison were not shown till about two hours after its introduction, and these effects progressed to coma and convulsions, as in experiments on animals. The most recent of these experiments, made by Leloir, prove that aniline causes convulsions and asphyxia by acting primarily on the hæmoglobin of the blood, of which it diminishes the absorbent power. We can understand from this why the effects do not appear more rapidly.

As special troubles we recall the transitory albuminuria, well in accord with the hypothesis of an alteration of the blood, and the anæsthesia of the velum, which remained even when the patient left the hospital. The troubles of sensibility in aniline-poisoning have been cited by several authors, recently by Grandhomme, who in patients poisoned by aniline vapor found absolute cutaneous anæsthesia. In our patient the anæsthesia was localized in the throat, but was persistent.

The treatment of this form of poisoning consists simply in the administration of stimulants with cutaneous revulsives. It is necessary to add evacuants in those special cases where the poison has been introduced by the digestive passages.

Recent Remedies.—Dr. James Sawyer (*Practitioner*, January, 1881, p. 39) thinks that much may be gained by practising physicians if each one will give his experience of such remedies as he has employed in his own practice. Dr. Sawyer adds his own experience:

Fuchsin he has used in doses of one grain thrice daily in albuminuria probably dependent upon chronic contracting kidney. He gives the remedy in pills, one-grain doses, made up with extract of gentian, to which may be added a little carbonate of iron or reduced iron. It colors the fæces and urine pink, but produces no subjective symptoms. He considers it the best remedy he has used in renal albuminuria.

Nitro-glycerin Dr. Sawyer has used in two cases of angina pectoris. In the first case, an elderly man with a fatty heart, no apparent benefit ensued. In the second case, that of a middle-aged man with chronic valvulitis and aortic stenosis and incompetence, marked relief was obtained. Dr. Sawyer does not mention the dose given, but he reminds us that Dr. Murrell, who introduced the remedy, gives one-drop doses of a one per cent. alcoholic solution in half an ounce of water thrice daily. The dose may be increased gradually up to fifteen minims.

Salicylate of sodium has been employed with success by Dr. Sawyer in diabetes. He gives it in a mixture containing fifteen grains of the salt with seven minims of tincture of opium thrice daily. One of his patients has been practically cured by this treatment, while others have been much benefited. He does not make any dietetic restrictions.

Ingluvin Dr. Sawyer thinks will prove a valuable addition to our materia medica. He has found it useful in atonic dyspepsia in doses of ten grains thrice daily, in powder sprinkled on bread, immediately after meals. In one case of the obstinate vomiting of pregnancy ingluvin was used with perfect success.

Milk-Diet in Heart Diseases.—Prof. Potain concludes a somewhat lengthy paper on this subject as follows. The "*régime lacté*" is particularly efficacious in secondary cardiac disease,—that is, in simple hypertrophy or dilatation of renal or gastric origin. In one case the milk-diet favorably alters the condition of the kidneys, and in the other the gastric state. But, in order to give these organs the needed repose, it appears essential to make the milk-diet absolute, and to prolong it for a greater or less length of time. A good effect of this regimen is also observable in those cases of simple reflex palpitation which depend upon gastric disturbance. In dropsy accompanying secondary renal lesions, the diuretic action of milk may act advantageously. This exclusive milk-diet can, however, be persisted in only when the system readily tolerates it.—*La Tribune Médicale*, September 19, 1880; *New York Medical Record.*

Epithelioma of the Vagina—Occlusion of the Common Iliac Vein—Pyæmia.—Mr. Bellamy (*Med. Times and Gaz.*, 1880, p. 510) had under his care a woman of 58, who, following a strain, had a swelling on the left side of the vulva and in the groin, with a watery discharge from the vagina. This discharge continued, and in a week or two was of a dirty-white color. About a week after the accident the left leg began to swell, at first the ankle, and afterwards as far up as the thigh. The whole lower limb then became of a dusky-red color, and was very painful, the pain being of a throbbing, tingling character. She was able to go about a little for six weeks, but after that was confined to bed. She did not improve, and, as her general health was suffering, she applied for admission to the hospital on April 19, 1880.

On admission, the left leg was much swollen and brawny to the feel. There was considerable œdema, but no special hardness over any of the veins. The surface of the skin was not hot, nor was there any undue tenderness on pressure. There was some discharge of a dirty-green fluid from the vagina. Some obstruction was felt in the rectum on attempting to pass fæces. On examination per vaginam, a nodulated tumor was found involving the whole of the left wall; its surface was ulcerated and discharged thin and very offensive pus. The left labium majus was affected by a nodulated growth, also ulcerated on the surface. The rectum was apparently implicated in the growth. No examination could be made, however, on account of the pain caused. Hot fomentations were applied to the leg, with some relief to the pain and tension, and local applications were ordered for the vagina. No special alteration occurred in the patient's condition for about six weeks.

On June 3 the discharge became more profuse and offensive, and on the evening of June 6 the patient had a severe rigor; the temperature went up to 103°, and, later, to 104.6°. The patient complained of feeling weak, and was extremely depressed; there was slight pain and tenderness in the hypogastric region, and the discharge from the vagina was profuse and somewhat bloody.

On June 8 a red blush appeared on the abdomen, and she complained of pain there. The left foot was swollen and erysipelatous-looking, and, later, fluctuation was found about the ankle-joint.

The patient died June 10. At the post-mortem examination the posterior wall of the vagina and the lower end of the rectum were found to be the seat of an ulcerating epitheliomatous mass. The lymphatic glands of the pelvis were enlarged, and those on the left side so much so that they pressed on the common iliac vein, and so had given rise to the symptoms in the left leg.

NITRO-GLYCERIN IN ACUTE AND CHRONIC BRIGHT'S DISEASE, AND IN THE VASCULAR TENSION OF THE AGED.—Dr. A. W. Mayo Robson (*Brit. Med. Jour.*, 1880, vol. ii. p. 803) has given nitro-glycerin in these cases with great benefit. A man of 56, with puffy eyelids and œdematous legs, a pulse tense and corded, the heart greatly hypertrophied, and breathing labored and difficult at times, was given a one-per-cent. solution of nitro-glycerin in one-minim doses every half-hour till its physiological effects were produced. It relieved the asthmatic symptoms so effectually that the patient would never afterwards be without it. After taking the medicine in three-minim doses thrice daily for a week, the urine, of which only a pint and a half daily, of specific gravity 1008, and very albuminous, had been passed, was now voided to the amount of three pints, specific gravity 1012, and almost free from albumen. This patient continued to take the medicine for some months, with great amelioration of the symptoms.

Dr. Robson mentions another similar case, in which the relief gained was equally striking. In the case of a woman of 52, who had had one slight apoplectic seizure and was threatened with another, and where the pulse was hard and corded and all her vessels indicated increase of tension, nitro-glycerin was administered in one-minim doses thrice daily, with the result of removing entirely all symptoms of dizziness, etc. In the subsequent history of this patient, a dose of the remedy has been taken whenever dizziness has begun to come on, with the result of relieving the symptoms, and, as may be supposed, of averting for the time a threatened attack of apoplexy.

A case of angina, or of anginaform attacks, appeared to be cured by the use of the nitro-glycerin. Other interesting cases are detailed by Dr. Robson, in which patients suffering an attack of acute nephritis were quickly relieved and cured.

Dr. Robson says, in conclusion, that whether the vascular tension which is the symptom treated be due to chronic kidney-mischief or to arterial fibrosis, this condition is unquestionably relieved by nitro-glycerin, and with the diminution of pressure, in his experience, improvement inevitably follows, though in some cases it may be only temporary.

CONTINUED ELECTRO-GALVANIC CURRENT IN AMENORRHŒA.—Dr. R. R. Good (*Med. Times and Gaz.*, 1880, p. 562), in a case of cervico-brachial neuralgia, applied the electro-galvanic current not only to the affected parts, but to the nerve-centres, the upper part of the spine, and the superior cervical ganglion. When, after three months of this treatment, he was able to discharge the patient cured of her neuralgia, he found that she was also cured of a stubborn amenorrhœa which had resisted every internal remedy. As the poles had not been applied to the pelvic viscera, Dr. Good was loath to attribute any peculiar virtue to the electricity thus applied; but further experience now justifies him in asserting the high value of this remedy.

The continued current can find its application only when the affection is due to an inertia of the utero-ovarian apparatus, to a disturbance in the circulation, or to defective nutrition. To resort to galvanism when the evil has its origin in a mechanical obstruction would, of course, be useless. From five to thirty-seven days were required to effect a cure in Dr. Good's cases. The descending current was employed, with twenty to thirty elements for the upper part of the spine, the lumbar and ovarian regions, and from six to ten elements for the sympathetic nerve, applied along the inner border of the sterno-cleido-mastoid muscle.

MISCELLANY.

On the Administration of Medicines in Drop Doses.—J. B. Moore (*Druggists' Circular*, February, 1881) says that medicines should rarely be prescribed in drop doses when it can be avoided, and more especially if the remedy be of a potent, poisonous, or corrosive nature, as it is often very hard to adjust the dose with any degree of accuracy, owing to the difficulty many persons experience in dropping a liquid, and the uncertainty of drop quantities. It often happens, in dropping a medicine from a bottle a little too full or with a badly-formed lip, that the most steady and practised hand can with difficulty drop a dose even with a near approach to accuracy. A few drops too many will sometimes flow out before they can be checked, and the medicine then has to be returned to the bottle and the process repeated again, perhaps with the same result, and to the utter disgust of the person to whom the unpleasant task is delegated. To the nervous and care-worn attendants who are so frequently found in the sick-chamber, the task of dropping medicines becomes doubly irksome and annoying, and especially when it has to be done, as in cases of lingering illnesses, day and night, sometimes for weeks at a time. Besides, it is sometimes impossible, no matter with how much care and judgment the dropping is performed, to prevent the number of the prescription and the directions on the label from becoming defaced, if not entirely obliterated, as is often the case, and the outside of the bottle from becoming stained and bedaubed with the liquid, and especially if it be any of the stronger acids or any of the iron preparations. And the trouble does not always end here, for the hands are liable to be stained, and the clothing, the furniture, or any damageable article that the medicine may come in contact with may be ruined or soiled. Furthermore, medicines which are prescribed in drops are usually very concentrated and powerful, and are often of a very corrosive nature, and therefore the more dangerous to keep about the house and in the sick-room.

There are cases, however, where it is desirable and even necessary for the physician to prescribe his remedies in as compact and as concentrated a form as possible. For instance, when the patient contemplates travelling from home, or when his occupation is of a migratory character, in such cases he may desire to carry the medicine in the pocket or travelling-bag.

Almost all corrosive, pungent, poisonous, and concentrated liquid medicines require to be diluted by the patient at the time of taking, which is often very inconvenient and troublesome; whereas if this were done by the pharmaceutist it would at once not only strip the medicine to a great extent of its noxious or dangerous properties, but would also exempt the patient or attendant from a very unpleasant task; then, if the medicine should happen to be taken by mistake, or innocently by children, a large quantity will perhaps have to be swallowed to produce fatal, or even dangerous, consequences. Many cases of injury and poisoning have followed the taking of very active and concentrated medicine by mistake which has been brought into the family on the prescription of a physician. Many medicines, like carbolic acid, liquor potassæ, and the various mineral acids, etc., are noxious chiefly in virtue of their corrosive nature, and when they are diluted are comparatively harmless and safe to keep in the household.

Besides, many of the poisonous and highly concentrated remedies which are generally prescribed in drop doses are often nauseous to take when simply diluted with water or sugar and water, as they usually are by the patient or nurse; whereas if the physician would prescribe these remedies in combination with simple elixir, syrup of orange, Curaçoa cordial, compound tincture of cardamom and syrup, lemon syrup, etc., or even in mixture with any of the medicated waters and a little syrup, they would form very palatable and safe remedies. In such combination the medicinal ingredients may be so adjusted in the vehicle as to make the dose of the mixture a teaspoonful, two teaspoonfuls, or a tablespoonful, as the physician may desire.

When precision in dose is very necessary or desirable, even the spoonful dose is also rather uncertain and inaccurate, owing to the irregular size and variable capacity of the various kinds of spoons. The dessert-spoon of all others is perhaps the most objectionable and uncertain, and it is best for the physician to direct the dose of all active medicines to be taken in the dose of two teaspoonfuls instead of the dessert-spoonful. In fact, many persons can hardly recognize the difference between the tablespoon and the dessert-spoon, and often mistake one for the other. I have known this to be done frequently in taking medicine.

The graduated tumbler or medicine-glass is perhaps the most accurate and reliable means of measurement of medicinal doses that we have for domestic use; and I think that it would be well for physicians, in all lingering and chronic illnesses especially, to request their patients to procure one of these glasses, as they are certainly a very useful adjunct to the sick-chamber, and cost but a trifle.

Physicians, I have no doubt, often prescribe medicines in the form of drop doses from the force of habit, without ever thinking of the inaccuracy of that mode of administration, or of the inconvenience that medicine given in that form is likely to subject their patient to, or without even for a moment taking into consideration the real danger of sending into

the household such dangerous medicines as are often prescribed in that form.

ENGLISH PRESCRIPTIONS.—The following bills are now before the Legislature of this State:

Whereas, Grievous errors and mistakes have been made by druggists and others in the compounding of the prescriptions of physicians by reason of the same being heretofore written in the Latin tongue and in abbreviations thereof, as well as the quantities or proportions of the drugs or medicines being designated therein by figures or symbols in a mode not readily understood by the bulk of the people, whereby undue advantage and a mystification of the patients may be taken by unscrupulous doctors, druggists, and persons who prescribe or compound medicines for the sick and poor, and it being desirable to simplify the practice of medicine and to enable the public generally to better comprehend the names and nature of such drugs; therefore,

Section 1. *Be it enacted*, etc., That physicians and all other persons engaged in prescribing medicines or drugs for the sick shall write the names, quantities, and designations of the same plainly in the English language and without abbreviations; and a copy of such recipe or medicines so compounded by druggists, herbists, or any other persons shall be labelled or written on the outside of the bottles, vials, or packages containing the same.

Section 2. That any person violating the provisions of this act shall be guilty of a misdemeanor, and, on conviction before a magistrate, alderman, or justice of the peace of the county where such offence may be committed, shall be subject to a fine of twenty dollars for each offence, together with costs, and in default of payment to an imprisonment of not less than ten days or more than twenty days, at the discretion of the court.

Section 3. This act shall take effect immediately.

Whereas, Serious mistakes and confusion in the sale and compounding of medicines for the sick have occurred by druggists and others by reason of the names thereof being written or printed in the Latin tongue; therefore,

Section 1. *Be it enacted*, etc., That all druggists, vendors, or compounders of drugs, medicines, or herbs for the use of the sick are hereby required to label or print the names thereof conspicuously on the outside of the bottles, pots, or packages containing the same, in the English language, and without abbreviations.

Section 2. That any person violating the provisions of this act shall be guilty of a misdemeanor, and, on conviction before a magistrate, alderman, or justice of the peace of the county where such offence may be committed, shall be subject to a fine of ten dollars for each offence, together with costs, and in default of payment to an imprisonment of not less than ten days or more than thirty days, at the discretion of the court.

Section 3. This act shall take effect immediately.

HEBRA'S SUCCESSOR.—The successor of Hebra is Professor Kaposi, who is well known to the profession by his various contributions to the literature of dermatology. A person of quick, nervous temperament, he combines a vast knowledge of his subject with the qualities of a brilliant lecturer and a good teacher. His class numbers more than that of any other teacher in his department.—*Cor. Cincinnati Lancet and Clinic.*

SCIENCE FOR THE YOUNG.—In a small manual for use in Manchester (England) schools we find the following, the standard being intended for children of eleven years, of the poorer classes:

"Man is described by the zoölogist as standing at the head of the animal kingdom. He is described as forming the only species in the order Bimana (two-handed animals), of the class Mammalia (suck-giving animals), of the sub-kingdom Vertebrata (backboned animals). He is further described as breathing atmospheric air by means of lungs; as possessing warm red blood, driven into circulation through his body by the action of a double heart, possessing two ventricles and two auricles; as producing living young, and nurturing them by means of milk secreted by the mammary glands; his skin more or less covered with hairs and scales; as possessing two hands and two feet, each five-fingered, the nails at their extremities flat and broad; and as possessing all his teeth even and close to one another, and his molar teeth equally enamelled."

"This is pretty well," says the *Saturday Review;* "and we only hope that the eleven-year-olds will not be led by the metaphorical expression at the opening to conceive the idea of a groom standing at the head of a horse named Kingdom, and that no awkward mistakes will arise from the use of the masculine in describing the process of nurture. Youth is prone to such little errors when its brains are overdriven."

In the next standard the author explains scientifically the things of common life. Youths of twelve are quite ignorant of what jumping means. He tells them, "Jumping or leaping is effected (1) by the sudden contraction of the muscles of the calf, by which the heels are suddenly raised and the body jerked off the ground; (2) by the simultaneous contraction of muscles which bend the thigh on the pelvis; (3) by the sudden extension of the legs by the contraction of the extensor muscles, this movement following immediately on the two movements first described."

Obviously this lucid explanation will be of little use unless (as an instructor of youth who anticipated the method observed) "he goes

and does it." The joy of intelligent youth when for the first time it consciously contracts the muscles of its pelvis may possibly be a consolation for the trouble of learning. A young philosopher who can define himself as a person who nurtures his young, etc., and who knows that he jumps by contracting the muscles of his pelvis, is obviously ready for instruction in higher things still.

To Remove Fish-Bones. — Fish-bones lodging in the pharynx are rendered flexible and are finally broken up by a mixture of hydrochloric acid (four parts) or nitric acid (one part to two hundred and forty parts of water) used as a gargle, the teeth being protected by oil or lard. So says Professor Voltolini in *Monatsschrift für Ohrenheilkunde.*

Sentimental Chemistry. — A French chemist is said to have condensed the body of his wife into the space of an ordinary seal, and had her highly polished and set in a ring. He made a nice income by betting with lapidaries and others that they could not tell the material of the set in three guesses, and, after pocketing the money, would burst into tears and say, "It is my dear dead wife. I wear her on my finger to keep alive pleasant remembrances of her."

Anecdote of Thierry de Hery.—One day, while this once-famous syphilographer was sauntering through the crypts of St. Denis, paying little attention to the various royal tombs about him, he suddenly precipitated himself before an effigy and began to pray. The verger, who was standing near by, called out to him, "You mistake, sir: that is not a saint's tomb, but that of our late king, Charles VIII." "Simpleton," replied De Hery, "learn that the good king Charles VIII. is more than a saint to me, as he imported the pox from Italy, and has been my benefactor to the amount of thirty thousand pounds a year."—*Canada Lancet.*

Compound Elixir of Chloroform.—Dr. W. F. McNutt, in the *Western Lancet* for August, 1880, recommends the following formula as a substitute for chlorodyne:

℞ Muriate of morphia, gr. ss;
Hydrate of chloral, ʒss;
Chloroform, ʒss;
Tinct. of cannabis indica, ♏xx;
Tinct. of capsicum, ♏xx;
Hydrocyanic acid, dil., ♏xx;
Essence of peppermint, ♏x;
Comp. syrup of sarsaparilla, ʒj.

Mix. Dose, one drachm.

This he has named "Elixir Chloroformi Compositus."

Practical Physiology.—An old lady who has several unmarried daughters feeds them on fish diet, because it is rich in phosphorus and phosphorus is the essential thing in making matches.—*Students' Journal.*

Obituary. — The *Obstetrical Journal of Great Britain and Ireland* terminated its existence at the end of last year.

Hoff's Malt Extract is a substance midway between an ordinary malt extract and a strong ale. Its effect upon the digestion of starch is said to be marked. In a series of experiments, Dr. J. J. Coleman, of Glasgow, found that Burton ale dissolved five per cent. of the starch; London porter, forty per cent.; Wrexham ale, twenty-six per cent.; the genuine Hoff's Malt Extract, sixty per cent.

The Taste of Chloral, which to many persons is excessively disagreeable, may, it is said, be disguised by administering it in syrup of gooseberries, with the addition of a drop of chloroform to each grain of chloral.

Fluid Extracts of Digitalis and Colchicum.—Dr. E. R. Squibb says that these are more eligible preparations than the tinctures. They are eight times as strong, and cost only half as much.

Nearly two million pounds of horse-flesh are said to have been eaten last year in Paris.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM FEBRUARY 6 TO FEBRUARY 19, 1881.

Baily, E. I., Lieutenant-Colonel and Surgeon.—The leave of absence granted him December 30, 1880, from A. G. O., extended one month. S. O. 35, A. G. O., February 11, 1881.

Gibson, J. R., Major and Surgeon.—To accompany Battery A (Light) and Battery D, Second Artillery, from Fort McHenry, Md., to the United States Barracks, Washington, D.C., for temporary duty thereat. S. O. 26, Department of the East, February 11, 1881.

Lippincott, H., Captain and Assistant-Surgeon.—Upon expiration of present leave of absence, to report in person to Commanding General, Department of the Platte, for assignment to duty. S. O. 34, A. G. O., February 10, 1881.

Elbrey, F. W., Captain and Assistant-Surgeon. — Relieved from duty at Fort Bayard, N.M., and assigned to duty at Fort Union, N.M., relieving Assistant-Surgeon Kane. S. O. 31, Department of the Missouri, February 12, 1881.

Byrne, C. B., Captain and Assistant-Surgeon. — To accompany Battery C, Second Artillery, from Fort Johnston, N.C. (abandoned), to Washington, D.C., and then proceed to Fort Barrancas, Fla., and report to the Commanding Officer of that post, for duty. S. O. 11, Department of the South, February 11, 1881.

Hoff, J. V. R., Captain and Assistant-Surgeon.—To accompany the four batteries of artillery from Fort Monroe, Va., as medical officer, to Washington, D.C. S. O. 27, Department of the East, February 11, 1881.

Finley, J. A., Captain and Assistant-Surgeon.—To accompany the battalion Third Artillery from New York Harbor, as medical officer, to the United States Barracks, Washington, D.C. S. O. 27, Department of the East, February 11, 1881.

Reed, W., Captain and Assistant-Surgeon. — To accompany Battery I, Second Artillery, from Fort Ontario, N.Y. (abandoned), to Fort McHenry, Md., and then report by letter to these Headquarters for further orders. S. O. 25, Department of the East, February 9, 1881.

Gardiner, J. De B. W., Captain and Assistant-Surgeon.—Relieved from duty in Department of Arizona, to proceed to Baltimore, Md., and, on arrival, report by letter to the Surgeon-General. S. O. 34, c. s., A. G. O.

Kane, J. J., First-Lieutenant and Assistant-Surgeon. —When relieved by Assistant-Surgeon Elbrey, to proceed to and report for duty at Fort Bayard, N.M. S. O. 31, c. s., Department of Missouri.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, MARCH 12, 1881.

ORIGINAL LECTURES.

ON BLOOD-VESSELS.

A Lecture delivered at the Jefferson Medical College

BY W. S. FORBES, M.D.,
Demonstrator of Anatomy.

GENTLEMEN,—The blood is conveyed through the body by branched membranous tubes named blood-vessels. It is driven along these channels by the action of the heart, which is placed in the centre of the sanguiferous system.

The blood-vessels are divided into three distinct sets: one set, named *arteries*, conduct the blood out from the heart and distribute it to the different regions of the body; another set, named *veins*, bring it back to the heart; whilst the third set, named the *capillary vessels*, or *the capillaries*, are placed between the arteries and the veins and connect them together, without being very definitely marked off from either arteries or veins, thereby allowing the blood to pass through arteries, capillaries, and veins successively in a continuous tubular system. The heart is a hollow, conical, muscular organ, with a membranous investment and lining. Its average weight is about ten ounces, its length about five inches, and its breadth about three and a half inches. Its surface exhibits a longitudinal and a transverse groove, which indicate a division of the organ into four parts, named auricles and ventricles. The two auricles are thin-walled cavities, placed at the base of the heart. They are separated by a partition, and are connected with the great venous trunks, the venæ cavæ and the pulmonary veins, through which they receive blood from all parts of the body. They communicate with the ventricle, each by a large aperture, the auriculo-ventricular orifice, which is furnished with a remarkable mechanism of valves, allowing the transmission of the blood from the auricles into the ventricles, but preventing a reverse course. The two ventricles are thick-walled cavities, forming the more massive portion of the heart towards the apex. They are separated by a partition, and are connected with the great arterial trunks, the pulmonary artery and aorta, by which they send the blood to all parts of the body. At the mouth of the aorta and at the mouth of the pulmonary artery a remarkable arrangement of valves in each case prevents the reflux of the blood into the ventricles. The blood is sent out of the left ventricle into the main artery of the body, named the aorta, and passes through the numerous subordinate arteries, which are branches of that great trunk, to the different parts of the body; then, traversing the capillaries, the blood enters the veins, and is returned by the venæ cavæ to the right auricle. In passing through the capillaries the blood changes in color from red to dark blue, and is otherwise altered in quality. It passes from the right auricle to the right ventricle, and it is driven by the contraction of that ventricle along the pulmonary artery and its branches and through the capillary vessels of the lungs, and, having now become red again, it enters the commencing branches of the pulmonary veins, which, ending by four trunks in the left auricle, convey it into that cavity, whence it is discharged into the left ventricle, to be sent again along the aorta and through the system as before.

The blood may thus be considered as moving out from the heart, or from any given point of the sanguiferous system, and returning to the same place again, after performing a circuit in closed membranous tubes; and this motion is what is properly termed the circulation of the blood. The passing of the blood from the left ventricle along the aorta, throughout the body, and back by the venæ cavæ to the right ventricle, is named the *greater* or *systemic circulation*, and its passing through the lungs by the pulmonary artery and pulmonary veins from the right to the left side of the heart is termed the *lesser* or *pulmonary circulation;* but the blood must go through both the greater and the lesser circulation in order to perform a complete circuit, or to return to the point from which it started. The aorta, which conveys the blood to the system at large, is named the sytemic artery, and the venæ cavæ the systemic veins; whilst the two sets of capillary vessels interposed between the arteries and veins, the one in the lungs, the other in the body generally, are respectively termed the pulmonary and the systemic capillaries.

The blood flows in the arteries from trunk to branches, and from larger to

smaller but more numerous tubes: it is the reverse in the veins, except in the case of the vena portæ, a vein which carries the blood to the liver. This advehent vein, though constituted like other veins in the first part of its course, divides on entering the liver into numerous branches, after the manner of an artery, sending its blood through these branches and through the capillary vessels of the liver into efferent hepatic veins, to be by them conducted into the inferior vena cava and then to the heart. The left cavities of the heart, the pulmonary veins, and the aorta, or systemic artery, contain red or florid blood, fit to circulate through the body; on the other hand, the right cavities of the heart, with the venæ cavæ, or systemic veins, and pulmonary artery, contain dark blood, requiring to be transmitted through the lungs for renovation. The red-blooded division of the sanguiferous system, commencing by the capillary vessels of the lungs, ends in the capillary vessels of the body at large; the dark-blooded part commences in the systemic capillary vessels and terminates in those of the lungs. The heart occupies an intermediate position between the origin and termination of each, and the capillary vessels, pulmonary and systemic, connect the dark and red sets of vessels together at their respective extremities. All these vessels serve as continuous channels through which the blood passes from one part of the sanguiferous system to the other, and in which it undergoes its alternate change of color, becoming dark as it traverses the systemic capillary vessels and red again in passing through those of the lungs.

In adult vertebrate animals the essential constituent of the blood-vessels is a tubular system formed of a single layer of flat cells, or of a delicate nucleated membrane, termed cell-membrane by Remak, and the endothelial tube by His. This tube is the least variable part of the vascular walls, and is present alike in the finest blood-vessels, in the largest trunks, and in the dilated portions of the vascular system,—the heart and the several sinuses,—however much the other constituents of the vascular wall may vary. The capillary vessels and the smaller veins are formed of this tube alone, the elementary constituents of which are delicate, flattened, more or less fusiform, or polygonal cells, composed of a nucleus with surrounding protoplasm, and arranged for the most part parallel to the long axis of the vessels. In the heart and arteries, and in most of the veins, this cell-tube is invested by connective tissue and by elastic and muscular elements.

The arteries, commencing in two great trunks, the aorta and the pulmonary artery, undergo division as in the branching of a tree. Their branches mostly come off at acute angles, and are commonly of uniform diameter in each case, but successively diminish after and in consequence of division, and in this manner gradually merge into the capillary system of blood-vessels. As a general rule, the combined area of the branches is greater than that of the vessels from which they emanate, and hence the collective capacity of the arterial system is greatest at the capillary vessels. The same rule applies to the veins. It follows then that the arterial and venous systems may be represented, as regards capacity, by two cones whose apices (truncated) are at the heart, and whose bases are united in the capillary system. The effect of the division of the arteries is to make the blood move more slowly along their branches to the capillary vessels, and the effect of the union of the branches of the veins is to accelerate the speed of the blood as it returns from the capillary vessels to the venous trunks.

When arteries unite they are said to *anastomose* or inosculate. Anastomoses occur in tolerably large arteries, as those of the brain (forming there the so-called circle of Willis) and the mesentery, the hand and the foot. But especially does this running together, or anastomosis, occur in the smaller vessels. Such anastomoses admit of a free communication between the currents of blood, and must tend to promote equability of distribution and of pressure, and to obviate the effects of local interruption.

The arteries are highly elastic, being extensible and retractile both in length and in breadth. During life they are also contractile, being provided with muscular tissue. When cut across, they present, although empty, an open orifice; the veins, on the other hand, collapse, unless when prevented by connection with surrounding rigid parts.

The smaller arteries have thicker walls in comparison with the larger, but the several components of the wall do not participate to an equal extent in producing this increase of thickness. It is chiefly

effected by an augmentation of the muscular tissue, which becomes abundant in proportion to the diminution in the quantity of the elastic and connective tissue. The tissues which form the investing tunics of an artery are arranged in layers, the thickness of which, as well as the order of their succession, undergoes many variations.

In most parts of the body the arteries are enclosed in a sheath formed of connective tissue, and the outer coat of the arteries is connected to the sheath by filaments of the same tissue, but so loosely that, when the vessel is cut across, its ends readily retract some distance within the sheath. The sheath often encloses other parts along with the artery, as in the case of the sheath enveloping the carotid artery, which also includes the internal jugular vein and pneumogastric nerve. Some arteries have no sheaths, as, for example, those which are situated within the cavity of the cranium. Independently of this sheath, arteries have been usually described as formed of three coats, named, from their relative position, external, middle, and internal, and this nomenclature correctly applies to the structure of the arteries so far as it is discernible by the naked eye. On examination with the microscope, however, some of the coats of these arteries are found to consist of six distinct strata. Proceeding from without to the cavity of the tube within, we have the following:

1. The *tunica adventitia.* This coat is composed mainly of fine and closely-woven bundles of white connective tissue. These bundles of white connective tissue chiefly run diagonally or obliquely round the vessel, and their interlacement becomes much more open and lax towards the surface of the artery, where they connect the vessel with its sheath. This coat is the one in which the nutrient vessels (arteries and veins, the *vasa vasorum*) form a capillary net-work from which a few penetrate as far as the muscular coat, but no farther. It is the coat through the more open portion of which the surgeon's aneurismal needle passes in placing a ligature around an artery. Its proportionate thickness is greater in small than in large arteries. It has some longitudinally disposed elastic fibres running between the bundles.

2. The *external elastic coat.* This coat exists as an independent membrane in the smaller and medium-sized arteries, with but few exceptions. Generally speaking, this membrane is formed by a net-work of fine elastic fibres, which is sharply defined internally towards the muscular layer, but which externally joins the elastic fibres of the tunica adventitia.

3. The *muscular coat.* This coat consists of non-striated muscular tissue, disposed circularly round the vessel, in fine bundles, and consequently tearing off in a circular direction, although the individual bundles do not form complete rings. The considerable thickness of the walls of the larger arteries is due chiefly to this coat; and in the smaller arteries it increases in thickness in comparison with the calibre of the vessel. Fine elastic fibres are found mixed with the muscular bundles, and, here and there uniting, form elastic laminæ which are arranged at nearly regular intervals and constitute septa dividing the muscular tunic into numerous layers. The elastic fibres are accompanied by white connective tissue in small quantity, the proportion of which increases with the size of the artery. In the smaller arteries the muscular coat loses its elastic fibre and the muscle-cells are larger and are in closer proximity with one another; accordingly, we find the vital contractility of these arteries increases and becomes more conspicuous. The transition of a capillary tube into an arterial tube commences with the appearance of scattered transversely-disposed fusiform muscle cells immediately external to the endothelial tube and between it and the tunica adventitia. These cells, at first large and scattered and in a single layer, increase in number and become superimposed upon each other. The aorta and pulmonary artery, however, immediately above the attachment of the semilunar valves, are destitute of muscles.

4. The *internal elastic coat.* This coat consists of several layers of longitudinal net-works of elastic fibres of different degrees of closeness. They take on a membranous character, and form the *perforated* or *fenestrated* membrane of Henle. When small shreds of it are stripped off, they have a remarkable tendency to curl in at their upper and lower borders. The *fenestræ* are round-oval or irregularly-shaped apertures of different sizes.

5. The *internal longitudinal fibre coat.* This is the subepithelial coat. It occupies a position between the internal elastic coat and the most internal or endothe-

lial coat of the artery. It is most constant in large arteries. It is said to be the membrane in which cell-proliferation is most apt to occur, and consequently is to be looked upon as of considerable pathological importance. It is composed of a homogeneous connective tissue, with a large number of branched corpuscles lying in the cell-spaces of the tissue. This membrane in young persons is indistinctly granular, but externally it becomes more distinctly fibrous after it has attained a certain thickness. The greater part of it is easily destroyed by the action of potash.

After what has been said, it is obvious that, whilst a description can be given which shall be applicable to individual arteries and to groups of arteries, no general statement can be given that is appropriate to the entire arterial system. There is, in fact, a certain antagonism between the elastic element of the tunica adventitia and that of the circular muscular layer. There also exists a certain antagonism between the circular muscular layer and its elastic elements. If in any vessel the circular muscular layer predominates, the elastic fibres diminish and recede towards the tunica adventitia. It is in the tunica adventitia of both arteries and veins that we find the vasa vasorum or nutrient vessels. These little nutrient arteries are derived from branches which arise from the artery or a neighboring artery at some distance from the point where they are ultimately distributed, and divide into smaller branches within the sheath and upon the surface of the vessel before entering its coats: they penetrate the middle coat in a circular direction, but are not found in the internal coat. Minute venules return the blood from these nutrient arteries, which, however, they do not closely accompany, and discharge their contents into the vein or pair of veins which usually run alongside of the artery. Lymphatics are present in the outer coat.

While the coats of the arteries when in a healthy condition are insensible, nevertheless, with the exception of the capillary vessels, the presence of nerves has been demonstrated in all blood-vessels, even in the tunica adventitia of the non-muscular veins of the pia mater. These nerves come chiefly from the sympathetic, but also from the cerebro-spinal system. They are distributed to the coats of arteries probably for governing their contractile movements. They form plexuses round the larger arteries, and run along the smaller branches in the form of fine bundles of fibres, which here and there twist round the vessel, and single nerve-fibres have been seen closely accompanying minute arteries. The fine branches penetrate to the middle coat of the artery, in which they are chiefly distributed. These lay aside their medullary sheath and form a plexus of pale fibres, the finest of which are without nuclei. Ganglion-cells occur in the course of some of the afferent nerve-fibres and in the coarser plexuses.

6. The *cell membrane*, or *endothelial tube* of Remak. This coat is the least variable part of the vascular walls. However much the other constituents of the walls of the entire vascular system may vary, this tube is present alike in the finest capillary vessels, in the largest trunks, and in the most dilated portions of the vascular system, the heart and sinuses and veins. The capillaries and smaller veins are formed of this tube alone, the elementary constituents of which are delicate, flattened, more or less fusiform, or polygonal cells, composed of a nucleus with surrounding protoplasm, and arranged for the most part parallel to the long axis of the vessel. The form of the cells lining the capillaries varies to a considerable extent. As a general rule, it is different in vessels of different calibre. Small capillaries present cells that are more fusiform in shape; larger capillaries, cells that are polygonal. After treatment with nitrate of silver the cells appear bounded by sinuous outlines, that are often lobed or dentated, which correspond to the dentations of adjoining cells. They are often destitute of nuclei. The finest capillaries consist only of a tube composed of cells or of a cylindrical layer of protoplasm which has assumed a tubular form. As the capillaries become larger, a delicate tunica adventitia is superadded, which in the hyaloid membrane of the frog is formed of a delicate net-work of fine fibrils composed of the processes of stellate cells lying directly upon the vascular wall. Each of these cells consists of a large elongated nucleus invested by an extremely delicate layer of protoplasm. The number of cells seen on a transverse section of a capillary tube is, with few exceptions, dependent less on their size than on their form, because the size of the cells in the capillaries corresponds with the calibre of the vessels. In the simplest examples a

fusiform spiral cell presents itself, the lateral surfaces of which are in contact, whilst the extremities occupy the spaces between the ends of the adjoining cells. The capillary wall is contractile both in young and in adult animals. This contraction may occur to such an extent that not even a single file of blood-corpuscles can traverse them. Small loop-like projections have been observed to raise themselves from the wall of the capillaries of tadpoles and of the nictitating membrane of frogs, and again become retracted. It is possible that by means of such contractions the corpuscles of the blood may be pressed into the capillary wall and ultimately perforate it.

The *Veins.*—Veins differ from arteries in possessing thinner walls, less elastic and muscular tissue, and for the most part a stronger tunica adventitia. They collapse when they are cut across or when they are emptied. But, notwithstanding their thinness, the veins possess considerable strength: they are stronger, according to some authorities, than arteries of the same calibre. The veins are ramified throughout the body like the arteries, but there are some differences in their proportionate number and size, as well as in their arrangement. In most regions and organs of the body the veins are more numerous than the arteries, so that the venous system is altogether more capacious than the arterial; but the proportionate capacity of the two cannot be assigned with exactness. The pulmonary veins form an exception to this rule, for they do not exceed in capacity the pulmonary arteries, these arteries conveying venous blood from the heart to the lungs, and these veins bringing arterial blood back from the lungs to the heart to be propelled by the left ventricle to every portion of the body. The veins generally are arranged in a superficial and a deep set, and as a general thing the superficial veins have thicker coats than the deep, and the veins of the lower extremities than those of the upper. The large arteries have usually one accompanying vein, and the medium-sized and smaller arteries two, named venæ comites vel satellites arteriarum. But the veins within the skull and spinal canal, the hepatic veins, and the most considerable of those belonging to the bones, run apart from the arteries.

While all the veins are not alike in structure, yet in most of them of tolerable size we discover the same constituent tissues that are found in the coats of the arteries, though developed to a much less extent. Beginning from without and proceeding inwards, we find—

1. The *tunica adventitia*, which is distinguished from that of the arteries by its greater thickness and the very small amount of elastic fibres it contains, and by the presence of non-striated muscular fibres placed longitudinally, which are well marked in the whole extent of the abdominal cava and in the trunks of the hepatic veins and the vena portæ.

The longitudinal elastic fibre, which in arteries of middle size is developed into a distinct membrane, named the external elastic coat, in the veins exists to but a very limited degree and never forms a distinct coat.

2. The *muscular* coat in the veins is much thinner than in the arteries, and has a much larger admixture of white connective tissue. In general, the fibres are both longitudinal and circular, the one set alternating with the other in layers. In accordance with the arrangement of the muscular tissue, the veins may be divided into four groups, namely,—

Veins with longitudinal muscles, as those of the pregnant uterus.

Veins with an internal layer of circularly- and an external layer of longitudinally-arranged muscular fibres, as in the vena cava inferior, the vena azygos, and the portal, internal spermatic, renal, and axillary veins.

Veins possessing an internal and an external longitudinal and a middle transverse layer of muscular fibres: among these are the iliac, crural, and popliteal veins, the branches of the mesenteric veins, and the umbilical veins.

Veins having the circular muscular fibre, such as the veins of the upper extremity, the small veins of the neck, the internal mammary vein, and the veins in the substance of the lungs.

3. The *internal elastic* coat. This coat never acquires the size and strength it exhibits in the arteries, and usually appears as a delicate and rather loose net-work of fibres, which for the most part run in a longitudinal direction, and but rarely, as in the larger venous trunks, undergo development into a fenestrated elastic coat as in arteries. In the iliac and crural veins this coat appears in some places to be split

into two laminæ, which intercommunicate with each other by fine elastic fibrils.

4. The *internal longitudinal fibre* coat is placed, as in arteries, between the internal elastic membrane and the endothelial tube. But it is developed to a much less extent than in arteries. In some veins it is almost wholly absent, as in those of the neck, the axillary vein, the vena cava, the mesenteric and portal veins, the vena azygos, and the branches of the pulmonary vein. The thickness of the layer by no means corresponds with the size of the vessel. Thus, it is absent in the vena cava inferior, reappearing in the iliac vein, and increasing gradually in strength until the popliteal is reached, when it attains its greatest thickness. At this part the membrane often forms thickenings which appear even to the naked eye as small elevations and transverse rugæ. On tracing it farther towards the periphery, its thickness will be found to undergo gradual diminution. The structure of this coat is essentially similar to that of the same layer in the arteries.

5. The endothelial lining membrane or tube consists of cells which when compared with the corresponding cells in arteries present a more polygonal and less distinctly fusiform shape, and are consequently both shorter and broader. Their size varies in different regions.

Cavernous Vessels, Vascular Plexuses.

Cavernous vessels result from the unravelling of the vascular wall, which becomes converted into a spongy tissue. The primary vascular wall becomes teased out into thin trabeculæ and plates, varying in thickness, which are sometimes formed of simple cellular threads and sometimes of all the tissues entering into the composition of the vascular wall. Structures of this kind are rarely met with in the arteries. The structure of cavernous veins consists in some instances of simple trabeculæ of connective tissue, as in the cavernous sinus, whilst in others it contains, in addition to the connective tissue, blood-vessels and muscular bundles running longitudinally and anastomosing with one another, as in the corpora cavernosa of the generative organs. The endothelium of the vessels forms the innermost layer of these blood-cavities.

The cavernous capillaries repeat, on a small scale, the relations of the cavernous veins. In the process of reparation of a wound there originate finer or coarser intercellular blood-paths, destitute of definite walls, which occupy the interspaces of the granulation-cells. Originally they form an intermediary plexus of plasmatic canals which are supplied by the arteries,—the blood issuing through spaces in the unravelled vascular wall and being similarly discharged into the veins. There is no special membrane lining or limiting these blood-passages. A portion of the plasmatic canals subsequently expand into true blood-vessels, the walls of which are formed by the fusion of the cells lining the blood-canals; the greater number, however, disappear altogether. Certain vascular plexuses are closely allied to the cavernous tissues, and indeed not unfrequently, as in the case of the papillæ of the comb of the cock, develop into actual cavernous spaces. Among these vascular plexuses there is one which lies in front of the coccyx in man and deserves special notice from the peculiarities of structure it presents, and to which it owes the names it has received from its discoverer, Luschka, of coccygeal gland and venous gland.

This plexus forms a round or slightly oval pale-red compact body, of at most 2.5 millimetres in diameter, the surface of which is either smooth or slightly tuberculated. Sometimes instead of this single body there may be found from three to six millet-seed-sized masses, connected together by loose connective tissue, and seated on fine branches of the middle sacral artery. According to Luschka, their discoverer, these bodies consist of fibrillar connective tissue.

ORIGINAL COMMUNICATIONS.

THE PHYSIOLOGY OF CLIMATE, SEASON, AND ORDINARY WEATHER-CHANGES.

BY ALEXANDER RATTRAY, M.D.,

San Francisco.

THE discovery of the circulation in 1628 was an important era in the annals of physiology. For not only did it give the true *course* of the blood-current, but a clue to the real *function* of the fluid itself. Till then, the indispensable importance of this to every cell, tissue, organ, and part, to every vital manifestation, and even to life itself, had not been fully realized. Nor had the blood been recognized

as the main element not only in the sanguiferous system but in the entire human economy.

When Malpighi, in 1661, supplied the missing link in Harvey's chain of evidence, by proving the existence of the capillaries, not only was the most important *part* of the circulatory system first pointed out, but the earliest glimpse was given of the pre-eminent *processes* carried on by their agency. Since then the heart has been mainly regarded as a propelling organ for forcing the blood-stream onward; the arteries and veins as little more than tubes for conveying it to and fro between the oxygenating lungs and the craving tissues; while the systemic and pulmonic capillaries, which irrigate the body, are the vessels in, by, or near which the leading vital operations of the human frame are mainly carried on,—an important connection being apparent between the blood-supply and activity of function, so that whatever increases or decreases the one similarly affects the other.

As it performs its tortuous circuit to aid in carrying out the multifarious functions of the body, the all-pervading blood-current from its first establishment until its final cessation pursues its course unvaried, except when influenced, first, by the ever-changing conditions of age, or different external or internal, physical or psychical agents which cause the velocity of the main stream to increase or decrease; or, second, by the local distribution through some of the side-branches becoming augmented or diminished by the ever-varying physiological activity of the organs or parts which they supply.

By none of the material or vital agencies now alluded to, including age, sex, race, idiosyncrasy, diathesis, hereditary predisposition, temperament, mode of life, habits, abode, occupation, diet, work, sleep, mental activity, moral emotion, and such like, are the blood-current and the different organs and functions of the body oftener or more acted on than by *atmospheric variations*, either originating in the air itself, or resulting from a change of locality. So unstable is the meteorology of our globe, and so frequent is travel, that the weather-mutations to which even settled residents are subjected are not only of constant occurrence, but often great and sudden, their important physiological results being unceasing and universal. No race can escape from the influence of one or other of the *climates* that characterize the tropical, temperate, and arctic circles. Nor in any of those zones can any individual elude the phenomena known as the spring, summer, autumn, and winter *seasons*, or evade the still more frequent minor *weather-changes* that mark one day or period from another, or night from day.

Intricate as this complicated physical factor necessarily makes the physiology of atmospheric changes on individuals, still another item must be taken into account if we extend the inquiry to the effect of climate on race. This consists in the difference which exists in the ordinary* and microscopic† anatomy, and doubtless the physiology, of the different races of mankind; no matter whether these are so important as to solve a long-vexed ethnological question by pointing to distinct genetic centres, or so trivial that they may be accounted for by the long-continued action of meteorological, dietetic, and other modifying forces.

Meantime, however, we have only to do with our own, that is, the Caucasian race, born in and therefore fitted for one, namely, the temperate zone, but who often travel to the equatorial belt on the one hand and the arctic circle on the other, and even in their own region encounter marked meteorological contrasts. The vast territory and many varieties of climate and season to which the large and busy population of the United States is exposed make this a subject of especial interest and personal importance.

Few countries possess more varied climatic characteristics than this, which may be said to include those of all three zones, since they range from the arctic of Alaska to the tropical of the Gulf States. Even from the latter to the northern boundary-line they include the isotherms of 40° and 75° Fahr., and thus have a range of 35° average annual temperature (Dove's chart.) The following table shows even more

* Dr. E. H. Shell, of Gainesville, Alabama, states that it has been proved by dissection that the lung of the negro has only two-thirds of the capacity of that of the white man of the same weight and height, thereby suggesting that the respiratory function also differs; that probably every other organ and function shows corresponding anatomical and physiological variations; and that the Mongolian race likewise has its peculiarities.

† This met with its first proof under the microscope of Bakewell (Transactions of Anthropological Society, London, 1871), whose practised eye found an appreciable dissimilarity between the red corpuscles of the Hindoo and the Mohammedan natives of British India sufficient to discriminate them readily almost at a glance. Research may extend this to every tissue and organ, both in these and in other races.

clearly not only the great annual range of American temperatures, but also how much colder are the winter and warmer the summer of some regions than others.

TABLE I.—CLIMATES OF THE UNITED STATES.

Region.	Extremes of Temperature. Highest.	Lowest.	Range.
Eastern or Atlantic States (Boston)*	98° F.	—8° F.	106° F.
Interior or Continental States (St. Paul, Minn.)†	99° "	—39° "	138° "
Upland or Mountain States (Fort Scully, Da.)‡	115° "	—30° "	145° "
Pacific States and Territories (San Francisco, Cal.)§	94° "	+27° "	67° "
Maximum extreme (Fort Scully; St. Paul)	115° "	—39° "	154° "

The equable climate of California forms a marked contrast with the variable ones of the Atlantic, interior, and upland States, where the summer is often tropical in heat and the winter arctic in severity; the daily weather-changes being also comparatively great, as at St. Paul, where the thermometer sometimes varies no less than 40° Fahr. in one day. But even in the Pacific States and Territories the thermometric range is considerable, and varies from the occasionally sub-arctic of Washington Territory to the thermally sub-tropical of Southern California; the winter and summer seasons being also well marked, and the diurnal changes likewise considerable. For example, at Oakland the extreme monthly range is given at 47° Fahr., and the extreme daily range at 38° Fahr.‖

It thus appears that the extreme temperature to which travellers in the United States may be exposed during the year is 154° Fahr.; that the highest to which residents in any one locality may be subjected in a year is 145° Fahr., and the lowest in a year 67° Fahr.; while the local monthly and daily changes from heat to cold, and the reverse, to which all are liable, are often considerable, even in the proverbially fine climate of California, and correspondingly trying to the human frame.

I. THE PHYSIOLOGY OF CLIMATE.

Our knowledge of the vital phenomena induced by change of climate has long been largely hypothetic, because mainly derived either from the effects of season, the artificial atmosphere of heated ovens, the air of mountain-tops, or that met while ballooning; while data were often deduced from experiments, not on man, but on the lower animals.

Obviously, however, the facts most acceptable in human physiology are those made on the *human subject* and in *natural climates;* for human and comparative physiology not unfrequently differ. While dry artificially-heated rooms or ovens are unlike tropical atmospheres, which combine heat, rarefaction, and moisture, so also the air of great altitudes differs from the usual surface-climates of extra-tropical latitudes, which conjoin cold with condensation and moisture. Neither do the abrupt and temporary exposures to heat or cold common in experimentation have many parallels in ordinary life, nor are they likely to induce results similar to the comparatively slow transitions involved in ordinary changes of climate.

Davy's and Becker's experiments on the bodily temperature, Forbes, Watson, and Becker's on the amount of urea and chloride of sodium in the urine, and a few others, have the merit of being made on the human subject and in strictly tropical weather; while as valuable corroborative evidence we have Blagden and Fordyce's investigations on the temperature of animals in the dry air of heated rooms; those of Ludwig and Obermier on the temperature of animals in the moist air of heated ovens; those of Berger and Delaroche on the same subject on man and animals in an artificial temperature; those of Vierordt and Ludwig on the number of respirations in hot weather on animals; those of Vierordt on the quantity of carbonic acid and water excreted by the lungs in animals under artificial heat; those of Prout on man in an artificially-heated atmosphere; those of Blagden on his own pulse in an oven heated to 260° Fahr., etc.

The physiological phenomena which follow marked changes of climate, both in the body generally and in its individual parts, are numerous, varied, and important. Not only the organs and functions of animal life,—namely, the nervous, muscular, and osseous systems,—but also and chiefly those of vegetative life,—namely, the digestive, circulatory, respiratory, secretory, and excretory,—are variously implicated. The more evident effects are so patent that they have been long recognized: for ex-

* Schaff, Smithsonian temperature tables.
† Ibid. ‡ Ibid.
§ Dr. H. Gibbons, 1857–77 inclusive.
‖ Dr. I. B. Trembly.

ample, exaggerated or impaired function, especially of the nutritive and eliminatory systems, particularly the skin, liver, lungs, and kidneys; as manifested in the tropics by hyperæmia of the surface, with an increased perspiration, an augmented discharge of bile per rectum, thirst, general lassitude of body and brain, lessened urine, appetite diminished and altered by an increased craving for vegetable and a lessened desire for animal food, and, no doubt, a suitable change in the quantity and quality of the secretions of the entire alimentary canal and its accessory glands.

With the more occult microscopic changes which doubtless take place in the various tissues and organs of the body we have here nothing to do. Our present object is to investigate the *functional* changes, especially those caused by *transitions from temperate to warm climates, and the reverse;* that is, those climatic changes with which the inhabitants of the temperate zone are most familiar, and which are thus of the highest etiological, pathological, hygienic, and therapeutic importance.

Recent research has added considerably to our knowledge of the physiological effects of *climate*,* and we shall presently show that these are identical with those induced by *season*, ordinary *weather-changes*, and other aërial variations, and necessarily of corresponding medical importance.

On proceeding from a temperate to a tropical climate,—for example, from the North to the South Atlantic, a change involving a rise of 29° Fahr. (54° to 83°) aërial temperature,—the following changes occur:

A. A *diminished respiratory function*, as shown—

1. By the ordinary or tidal respiration being less deep, that is, *gentler* to the extent of 1.29 cubic inches, or 8.9 per cent. (14.54 to 13.25 cub. in.).†

2. By the ordinary or tidal respiration being *slower* to the extent of at least 0.9 respiration per minute, or 5.45 per cent. (16.5 to 15.6), and sometimes more. This fact corroborates Vierordt and Ludwig's experiments on animals, whose respirations were lessened in number by artificial heat.‡ This slowing of the respiration conjoined with its lessened quantity proves that *lung-work* is *diminished* in tropical climates to the following extent:

44.22 cubic inches per minute;
2653.20 " " hour;
63676.80 " " day;

or, 36.85 cubic feet of air = a decrease of 18.43 per cent. § And if we take ten ounces of carbon (the mean of three estimates, namely, those of Lavoisier and Seguin, Davy, and Allan and Pepys) as the average amount of carbon thrown off by the lungs in a temperate climate, this reduction of lung-work by 18.43 per cent. gives 8.157 ounces of carbon as the daily pulmonary excretion in the tropics at the above temperature. This corroborates Prout's previous experiment, which showed that carbonic acid is given off in smaller quantity by the human lungs in high temperatures. ‖ Letellier's observations on animals prove the same thing; ¶ while Vierordt's observations show that the same is true of the human subject, less carbonic acid and presumably less water being eliminated when subjected to heat, to the extent of more than two cubic inches of carbonic acid hourly in a difference of 10° Fahr.** Whether this diminution in the excretion of carbon by the lungs is counteracted by a vicariously increased excretion by other carbon-excreting organs,—for example, the skin, liver, and kidneys,—has yet to be determined. It will be subsequently seen, however, that as a rule the liver does not act vicariously under those circumstances, nor probably do the kidneys. The attitude of the skin, however, requires study, and will necessarily be difficult of solution, since the normal amount of carbonic acid excreted by this organ is yet undetermined. The amount excreted by any of these three vicarious organs depends much on the food and exercise. If the former is diminished and also changed according to the dictates of prudence and our "innate chemical instinct" (Aitken) to a more vegetable and less animal diet, while both the brain- and body-tissue-waste are lessened as usual, there is probably no increase in the carbonaceous excretion by these organs, but perhaps a decrease, as with the lungs. A third item must also be taken into account, namely, the lessened amount of air—that

* See a memoir in the "Proceedings of the Royal Society of London," vols. xviii., xx., xxi.; also a translation in the "Archives de Médecine Navale." Paris, 1869 *et seq.*

† Ibid. ‡ Parkes, Practical Hygiene, p. 402.

§ In this calculation the expansion of air and other gases by heat, according to Dalton's and Gay-Lussac's law, has been taken into account.

‖ Hooper's Physician's Vade-Mecum, seventh edition (edited by Drs. Guy and I. Harley), p. 56.

¶ Carpenter's Physiology, p. 594.

** Parkes, Practical Hygiene, p. 402.

is, oxygen—required for the vital processes in the tropics, where, although the tissues decay more rapidly (Carpenter), the lessened amount of brain- and body-work more than counterbalances this, and makes the total quantity of débris to be excreted considerably less. However, when for one reason or another carbon finds its way into the system in the tropics in unusual quantity and the lungs cannot throw it off, then the skin, liver, and kidneys doubtless aid them and excrete it, the former as carbonic acid, and the latter in forms which do not require much oxygen for their formation, namely, as bile and uric acid.

3. By an increased spirometric measurement (vital capacity, pneumatic capacity) of the lungs, which, under a rise of 18° Fahr., increased to the extent of

Lowest = 24 cubic inches = 8 per cent.
Highest = 47 " = 18⅓ "
Average = 31 " = 12¼ "

This average is equivalent to a rise of 1.73 cubic inches of air per degree Fahr., and in the highest amounts to more than one-sixth of the total vital capacity of the lungs. In growing lads (age 14 to 17), in whom the chest is still undeveloped, the average rise in the spirometric capacity amounts to 0.6 cubic inch per degree Fahr.* The figures are doubtless different in the female sex, since their chest is considerably different both in size and in form. Experiments, however, are still wanted to show what this amounts to both in adult and in growing women.

As with latitude, so with altitude in the tropics, there is a rise in the spirometric capacity on going from the colder upper mountain-regions to the warmer atmosphere of the sea-level. This instance involved a thermometric fall of 10° Fahr. (75°–65°) for an elevation of two thousand feet, and gave a spirometric difference of twenty-three cubic inches of air. The reverse necessarily happens on making an ascent.

It has also been proved that this law of an increased spirometric capacity in a warm atmosphere prevails in the negro or Ethiopian as well as in the Anglo-Saxon race, and thus presumably in all varieties of mankind;† also, that the presence of serious disease of the lungs, as catarrh, asthma, phthisis in all three stages, does not prevent the manifestation of this law; the reason of which will presently appear.

It was also shown that the spirometric capacity of the lungs rose and fell in this manner five times successively while changing from zone to zone, thus proving it an unfailing phenomenon; a fact to be subsequently explained.

Another fact forms an important adjunct of this rise in the spirometric capacity; namely, an unappreciably unaltered size of the bony chest, and therefore *no increase in the size of the enclosed lungs.* Nor does the normal growth of the chest which occurs in youth appreciably interfere with or prevent this pneumatic rise and fall, since even the latter is very marked in growing lads.

The only hypothesis by which these phenomena can be accounted for is that the varying spirometric capacity is the result of an alteration in the relative proportion of lung-tissue and lung-blood,—a change in the solids and fluids on the one hand and lung-air on the other, in which the former, the *blood*, is displaced by the latter, or *air*. In other words, it indicates a decrease in the volume of the lung-circulation and a corresponding increase or dilatation of the cells by air. Thus there is only an alteration in the relative proportion of blood and air; the blood-current or lung-vascularity being decreased to the extent of 17.88 fluidounces, the equivalent by bulk of the average spirometric increase of 31 cubic inches (necessarily distributed to other organs, especially the skin), and the air correspondingly increased. The blood, directed mainly to the functionally excited skin, permits the ingress of more air into the pulmonary tubes and cells. Briefly, the lungs in the tropics, unaltered in size, contain less blood actually and relatively, and therefore more air, than in colder latitudes. In changing climates the oscillation in the relative proportion of blood and air follows an inverse ratio,—the one rising, for an obvious reason, as the other falls. Hence it is the rise and fall in the amount of *air* or spirometric capacity, and not in the blood, which corresponds to the rise and fall in the atmospheric temperature. Blood is the displacing and air the displaced agent: the former, drawn surfaceward by the heat of the air and skin, is replaced

* Pacific Medical and Surgical Journal for May, 1880.

† Shell's assertion that the negro lung has only two-thirds of the capacity of that of the white man of the same height and weight must not be forgotten in connection with this. This implies that the spirometric measurement is correspondingly altered.

by an equivalent bulk of air. Under cold the reverse happens.

This tropical increase in the vital capacity of the lungs is no doubt permanent; that is, it lasts as long as the individual remains in a tropical climate. And its rationale is that it is merely one of the sequelæ and manifestations of a greater and more general law of the circulation, to be presently described. This law affects not the lungs only, but every other organ and function in the body; although it is in these alone that it is possible physically to demonstrate its existence and give other proof of the physiological increase or decrease in function common to them and other organs.

Explained thus, this increased spirometric capacity of the lungs in the tropics may be correlated with the previously mentioned facts, namely, *slower* and *gentler* respiration; inasmuch as like them it furnishes another proof of diminished pulmonary circulation and respiratory function. Though apparently conflicting and contradictory, these two phenomena, an increased spirometric capacity and a diminished lung-function, are really allied, and, as reflection will show, merely parts of one and the same physiological law, and to be similarly explained. The correctness of this conclusion is still further corroborated by another fact: that the spirometric increase in the tropics is greatest in those of largest frame, and also at mid-age; that is, in those (*cæteris paribus*) of fullest blood, in whom the derivative effects of climate are most observable. Other three facts, obtained from an unexpected quarter, furnish additional proof of this hypothesis, namely, the diminished excretion of carbonic acid, noticed by Prout;* the diminished post-mortem weight of the lungs in tropical regions, first noticed by Francis, and subsequently by Parkes, who shrewdly supplemented his observation by suggesting that it showed apparently a diminished respiratory function;† and, lastly, the smaller lungs, and, inferentially, the smaller respiratory function, of the negro natives of tropical countries, found by Shell.

Several other new though practically less important facts in pulmonary physiology deserve notice. For example, that in tropical as in temperate latitudes respiration is least frequent in the morning, and gradually increases as the day advances. Also, that the difference between morning and evening respiration is not so great in the tropics as in cold latitudes, where the lungs play a more active part in heat-generation and the elimination of carbon and watery vapor.

Although not yet verified by experiment, the pulmonary exhalation of watery vapor is doubtless diminished to the same extent as the excretion of carbon, namely, by 18.43 per cent. The amount in temperate regions has been reckoned at one-quarter the surplus water of the body, or from six and one-half to thirty-one ounces during the twenty-four hours.‡ By taking twenty ounces as an average, this would make 16.32 ounces for the tropics. But whether this and the 1.843 ounces less carbon, one or both, are or are not excreted by other organs, such as the vicariously acting skin and liver, so as to make the total excretion in the tropics and in temperate regions correspond, has yet to be determined.

B. That changing from a temperate to a tropical climate, even when the increase of temperature is only 27° Fahr. (57° to 84°), affects the circulation, is proved by the radial *pulse* being on an average two and one-half beats slower in the latter. And sphygmographic observation may prove what this suggests,—that the pulse is diminished not only in frequency but also in *force*. In the opinion of Parkes, however, the pulse is perhaps not so full in the tropics, but quicker; though in animals he avers that moderate heat does not quicken the pulse, but great heat does.§ Hooper likewise states that the pulse increases under warmth and diminishes under cold.‖ Further observation is thus wanted to settle this disputed point. At the same time, the derivation of blood from the heart and great vessels of the interior of the body to the surface seems to point to a reduction in the force and frequency both of the heart and pulse. The slower and smaller pulse of the tropics, indicative of a more languid circulation, should be correlated with the diminished respiratory function, thus furnishing another proof of the close physiological connection that exists in the

* Hooper's Physician's Vade-Mecum, p. 56.
† Practical Hygiene, p. 402, fourth edition.

‡ Hooper's Physician's Vade-Mecum, p. 57, seventh edition.
§ Practical Hygiene, p. 403.
‖ Hooper's Physician's Vade-Mecum, p. 196.

tropics, as elsewhere, between the respiration and the circulation.

Several minor facts connected with the pulse are interesting. For example, that as in temperate latitudes* so also in the tropics the highest pulse of the day occurs, although by no means invariably, in the morning. Also, that the average morning and evening pulse are lowest in the tropics, the average afternoon pulse, however, being higher in the latter. This is probably due to the solar heat, greatest at that period of the day, and is doubtless physiologically connected with a corresponding rise and fall in the temperature of the body at the same periods.

C. Regarding the bodily temperature (under the tongue), a subject necessarily largely connected with the circulation, respiration, and cutaneous function already criticised, as well as with the ingesta, exercise, and aërial temperature, observation goes far to indicate that on proceeding from a cool to a tropical latitude the bodily temperature shows a gradual though comparatively trivial increase, more or less in accordance with the temperature of the air. Thus, as the atmospheric temperature rose from 57° to 84° Fahr., the bodily heat rose from 98° to 98.3°, then to 98.6°, then to 98.8°, and occasionally even to 100°; the average being 98.836°. This apparently indicates that the blood itself increases slightly in temperature; the tempero-tropical range of bodily temperature being thus about 2°. This corresponds closely with Davy's observations, who gives the rise as from .5° to 1° Fahr.† Eydaux and Brown-Séquard give from 1° to 2¾° and 3° Fahr. These variable figures are explained by the naturalists of the "Bonita," who say that it rises more in some than in others.‡ Blagden and Fordyce's experiments show how much the temperature of the body depends on the cutaneous exhalation. Thus, in the dry air of an oven heated to 260° Fahr. the temperature of the skin rose only 2½°. But when the air of the heated oven is so moist as to hinder evaporation, the bodily temperature rises rapidly, as much, according to Ludwig and Obermier, as 7° or 8°.§ Some observers have averred that there is no rise in the bodily heat; and, as if to compromise, Parkes suggests that the rise is only temporary, and that the bodily heat soon returns to its original standard.‖ The following recent observations, however, on the difference between summer and winter bodily temperatures in California (which necessarily correspond in kind, though not perhaps in degree, with those of hot and cold latitudes) show the decided rise in summer of from ¼° to ¾°, average ½°. This reconfirms Davy's observations for the tropics. And when we remember that the bodily temperature is mainly engendered in or near the capillaries by the oxidation of the effete tissues, especially their carbon, as well as the great development of the cutaneous capillary system and its increased respiratory and perspiratory activity in the tropics, and conjoin these with several facts to be subsequently noticed regarding the cause of the perspiratory function, common sense seems to endorse original observation as to the truth of the pioneer experimentalists' researches.

The regulation of the bodily temperature is no doubt largely under the control of the nervous system. And the thermic centres and nerves by which the bodily heat is regulated are doubtless in close sympathy with the sudorific nerves and centres, which likewise aid in controlling it in warm atmospheres. In ordinary circumstances, even when the temperature of the air rises to 120° Fahr. or more, as in British India, the cold induced by the evaporation of the perspiration suffices to keep the temperature of the skin and body down to the normal standard. Occasionally, however, when the solar heat acts on local spots with its full intensity, the evaporation is not sufficient to keep the temperature down, the blood and tissues are superheated, and morbid action results. A notable example of this is probably to be found in that form of sunstroke in which local coagulation of the albumen or myosin of the blood¶ is the chief pathological result.

Another but a minor fact in tropical physiology is that the bodily temperature is greatest during the afternoon, when the sun is hottest, the air most stagnant and humid, the body and brain most active, and digestion—that is, the addition of heat-producing material—most vigorous. So also it is least in the morning. These

* Guy's Hospital Reports, vol. iii.
† Parkes's Physiological Hygiene, p. 401.
‡ Kirke's Physiology.
§ Parkes, p. 402.
‖ Ibid., p. 401.
¶ Albumen coagulates at 158° (Carpenter), and myosin begins to coagulate at 113° F. (Kühne).

facts are apparently corroborated and increased in interest by the previously mentioned fact that the tropical pulse is also highest and lowest then.

D. That the liver-work is increased in warm atmospheres is a generally received opinion. But this has not yet been demonstrated. And it appears not improbable that the reverse holds good, and that with the diminished respiratory function and excretion of carbon and watery vapor there is possibly a reduced hepatic secretion also. The evidence on this point, however, is merely circumstantial. Nor, from the nature of the case, is positive information ever likely to be attained, any more than we can accurately determine the quantity secreted in temperate latitudes, itself a still unsettled question. Probably the credit of secreting more bile in the tropics is to be accounted for by the fact that more bile comes away by the bowels. But this by no means proves that the hepatic secretion itself is increased. On the contrary, though more is *excreted*, no more may be *secreted*, but possibly less. In connection with this let the amount and use of the bile be remembered, and also the fact that only a small part of the biliary secretion is *excreted*. The daily amount secreted in temperate latitudes is averaged at one pint, or nine thousand grains; which is equal to nine hundred grains of solids, or nearly five hundred and twenty grains of carbon.* Of this only about twenty grains are voided daily with the fæces. The rest, or five hundred grains,—that is, more than one ounce of carbon,—finds its way into the intestines, to be reabsorbed into the blood, to serve as fuel for the lungs. Now, as less heat-generating pabulum is required for the lungs in the tropics, we may also conclude that less of the bile secreted there is absorbed for this purpose, and that more of it is discharged by the bowels; and, furthermore, that probably the biliary secretion itself is also lessened in quantity to correspond with the diminished requirements of the system. Thus, although the tropical *excretion* of bile, that is, the amount discharged by the bowels, is undoubtedly greater, the primary hepatic secretion is possibly less; the presumed increase being only apparent and deduced from fallible data. In this manner the apparently increased biliousness and tendency to diarrhœa, dysentery, and hepatic ailments in the tropics may be accounted for. The irritative secretion per rectum being normally increased, even the slight congestive chills so apt to occur there from checked perspiration necessarily tend to augment not only the hepatic secretion itself, but also the percentage excreted.

E. It is impossible to separate any consideration of the influence of climate on the kidneys from that on the skin. None of the organs of the body are more seriously affected by great changes of climate than these organs and their secretions. This involves both their ordinary and their vicarious functions, their waste product as well as their water-excreting duties. On going from a temperate to a tropical latitude there is a diminished nephritic secretion to the extent of seventeen and a half per cent. for a rise of 18° Fahr. temperature (63° to 81°).† This diminution involves not only the fluid but also the solid constituents of the urine.‡ Both are due partly to the reduced ingesta, and partly to the vicarious action of other organs, especially the skin and liver; while the decrease in the solids no doubt involves both the urea and the chloride of sodium,§ and also the whole of its ordinary saline and inorganic ingredients. It was also shown that, as in temperate latitudes, so in the tropics the kidneys are still the chief eliminators of water; and that the urine is perhaps not so often or so much diminished in the tropics as is usually believed, and then only when the drink is stinted in quantity; but not when this is increased or decreased to suit the temperature and the augmented or diminished demand for fluid ingesta. After copious imbibition of fluids the perspiration breaks forth copiously and early, showing that it is more the cutaneous than the nephritic secretion which alters and either rises or falls contemporaneously with variations in the amount of drink in the tropics, and meets any additional strain in the water-excreting function; while the reverse holds good in temperate climates. In warm regions the functionally excited and vicariously active skin acts as a safety-valve for the kidneys during stress of function; as the latter do for the former in cold latitudes. In all places the amount of urine depends much on the quantity of the fluid

* Hooper's Physician's Vade-Mecum, p. 59.

† See memoir, Proceedings of Royal Society, vol. xviii. *et seq.*

‡ Ibid.

§ Drs. Forbes, Watson, and Becker, Parkes's Physiological Hygiene, p. 403.

ingesta; whereas the perspiration depends largely on the temperature.

F. Closely related with all these phenomena, but especially with the latter, is the increase in the cutaneous function. Under a rise of 18° Fahr. (63° to 81°) the perspiration increased by no less than 22.15 per cent., thereby causing the skin to rank next to the kidneys as the chief eliminator of surplus water, and to take the place of the lungs, which in the temperate zone is the second-rank but in the tropics only the third-rate water-excretor. The skin, which thus throws off water at the expense of the kidneys and lungs, doubtless acts vicariously also in throwing off the carbon and nitrogen usually excreted by the kidneys and the carbon of the lungs. There can be little doubt that frequent change of climate from temperate to tropical, and the reverse, tends to develop both the ordinary and the safety-valve action not only of these but of all the other organs of the body within moderate bounds.

The relative excretion of water by the four great depurating organs in the tropics, and the difference between this and the proportionate amount in temperate latitudes, is shown by the following table:

TABLE II.—RELATIVE EXCRETION OF FREE FLUID IN TEMPERATE AND TROPICAL LATITUDES.

Organ.	Temperate Zone. (Dalton.)* Free fluid drunk = 76 ounces daily.				Tropics.† Free fluid drunk = 88 ounces daily.				Rise or fall in the tropics.
		Oz.	Proportion.	Per cent.		Oz.	Proportion.	Per cent.	Per cent.
Kidneys	(about)	45.25	4/9	59.54	(about)	37.	4/9	42.04	—17.50
Lungs	(somewhat more than)	20.50	1/4	26.97	(somewhat less than)	19.58	1/4	22.25	— 4.72
Skin	(rather less than)	6.50	1/12	8.55	(about)	27.22	1/3	30.93	+22.38
Bowels	(about)	3.75	1/20	4.93		4.02	1/21	4.78	— .15

Thus, while the kidneys are the chief water-excretors in all climates, the relative importance of these four organs as water-eliminators in the warm and temperate zones is as follows: for the temperate zone the kidneys, lungs, skin, bowels, and for the tropics the kidneys, skin, lungs, and bowels. And while in the tropics the excretion of water by the kidneys diminishes by 17.50 per cent. and by the lungs by 4.72 per cent., that by the skin increases by no less than 22 per cent.

With this increase in the perspiration there is probably an increase in the cutaneous exhalation of carbonic acid, which in temperate latitudes has been estimated by Dalton as ¼ oz. of carbon. Liebig's estimate, however, for the temperate zone is considerably larger, since he found that an adult taking moderate exercise expires daily from the lungs and skin combined an average of 13.9 oz. of carbon. To find that exhaled from the skin alone we must deduct the quantity excreted by the lungs. According to Dalton, this is 10¼ oz., while of three estimates by Lavoisier and Seguin, Davy, and Allan and Pepys, it varied from 6.44 to 11.76 oz., giving a mean of 10 oz. Now, if we deduct even the highest of these estimates, it would give a considerably larger excretion of carbon by the skin in temperate latitudes than given by Dalton. Further observation on this point and on the amount for the tropics is clearly wanted, especially to determine whether the latter compensates for the decrease in the pulmonary, hepatic, and nephritic excretion of carbon as it does for the watery excretion. However, as the carbon-excretion depends mainly on the ingesta and on the amount of mental and bodily exercise, and as the former is usually not only less in quantity but also more vegetable and less animal in accordance with the dictates of prudence, and thus for both reasons less carbonaceous, while the body and brain are usually less active, and thus furnish less tissue-waste, it is probable that the excretion of carbon by the functionally-excited skin in the tropics, though somewhat increased, may not be augmented to the same extent as the excretion of water.

Those functional changes already discussed are not only the most evident but also the most important, inasmuch as they are those which by *their perfect fulfilment bear most on the preservation of health and the prevention or cure of disease, and the*

* Hooper's Physician's Vade-Mecum. Although the free fluid drunk is different in Dalton's experiments and this, the proportionate results are necessarily of the same value.

† This table is slightly altered from that in the memoir to correspond with the above-quoted modified views regarding the excretion of bile.

hygienic or therapeutic methods by which these objects are best attained. How much the blood-current has to do with all of these different physiological phenomena, and how much it likewise is affected during change of climate, season, and weather, will appear presently.

G. But, besides these functional changes in the organs of vegetative life, other important but more tardy and hence less noticeable changes are apt to follow migrations from temperate to tropical climates, or the reverse, in the organs of *animal* life, namely, the nervous, muscular, and osseous tissues. These are not due, like the changes already spoken of, to a diversion in the blood-current, but to changes in the blood itself and the tissues which it nourishes; the early and primary effect on the tissues being chiefly quantitative and physical. In short, it affects their *bulk* only. But when prolonged and great, especially if conjoined with other adverse agencies, then their *composition* becomes affected, and the result is qualitative and chemical. These changes are chiefly manifested by a decrease in the vital energy, weight, strength, and health, with languor of body and brain and a general impairment of the physique. Under a prolonged stay in the tropics even the constitution and temperament become modified, the frame undergoes premature decay, life is shortened, the offspring becomes mentally and physically degenerate, and families ultimately extinct.* The subject is thus hygienically and even socially important.

Individuals occasionally fatten in warm atmospheres, and instead of losing flesh they gain in this as well as in health and strength; while, on the other hand, a corpulent person may decrease considerably in weight, while his health instead of impairing actually improves. In such instances the effect of climate is purely physiological. But such cases are exceptional, and consist mainly in unimportant fluctuations in the amount of adipose tissue. As a rule, however, the issue includes loss in flesh, health, strength, general deterioration of the physique, and after a time an increasing percentage of sickness. Thus the effect, though perhaps healthful at first, unquestionably soon becomes slowly and surely pathological, and predisposes to, even if it does not originate, disease.

Thus, it has been proved that among adults sixty-four per cent. diminished in weight an average of five pounds on going from a temperature of 50° Fahr. to one of 88° Fahr. When another adverse influence, namely, a salt-meat diet, was superadded to that of tropical climate, the percentage who lost weight increased to sixty-five per cent., and the average loss to six pounds. If still another unsanitary influence, namely, moist atmosphere, was added, the rise went up to seventy-six per cent., and the average loss to seven pounds. If still another morbific agent, namely, hard work, was added, the number who lost was ninety-one per cent., and the average loss six and three-quarter pounds. This is clearly a very close approach to the border-land of disease. If to these another morbific agent is added, viz., impure air, the result passes the bounds of health, and actual disease in various forms results.† So that, regarded as a whole, these results when prolonged or excessive, if not actually morbid, predispose at least to asthenic processes. These results will be more clearly shown by the following table:

TABLE III.—TO COMPARE THE EFFECT OF CLIMATE, ETC., ON THE WEIGHT.

Pernicious influences.	Gain or unchanged in weight.		Loss in weight.	
	Per cent.	Average pounds.	Per cent.	Average pounds.
None	90.36	6.3	9.64	2.62
One (tropical climate)	35.30	3.	64.71	5.
Two (tropical climate in *dry* season, and salt meat)	34.78	3.9	65.22	6.39
Two (tropical climate in *wet* season, and salt meat)	23.66	2.8	76.34	7.15
Three (tropical climate, salt meat, and hard work)	8.73	3.66	91.26	6.96

The same thing is observed among boys, who normally ought to grow steadily in weight, breadth, height, and strength, but of whom ninety-seven per cent. lose weight in the tropics or do not increase even on a wholesome diet. In the majority growth is retarded; in some it is stopped, both weight and health being affected. Many increase in height in tropical weather, but not in breadth or weight, and thus shoot vertically, like sickly plants. This is evidently an unnatural mode of development, and the best proof that to send young undeveloped lads, girls, or young recruits,

* Copland's Medical Dictionary.

† See an "Analysis of Ship-Air," Medico-Chirurgical Transactions of London, vol. lvi.

whether soldiers or sailors, to tropical climates, is unwise, and not the best mode to produce strong, healthy, long-lived men and women.

In this change in the weight probably every, or nearly every, tissue in the body is more or less implicated, especially those which compose the great bulk of the frame, the organs of animal life. The blood is doubtless reduced by the excessive elimination of watery fluid. The osseous system, and the thoracic, abdominal, and cephalic viscera, are probably little changed. The fibrous and gelatinous are probably more altered, but it is difficult to separate this from the change in the fatty, muscular, and nervous tissues, the three doubtless most of all affected. Since fat is less needed to keep out cold and to generate heat, muscular action, nervous energy, etc., it is probably first used up, as it is a positive encumbrance, does not play a vital part in the human economy, and does not materially influence health by its removal. Strength is the manifestation of muscle acted on by nervous influence, and, as these diminish *pari passu*, the result is doubtless partly due to reduced energy and diminished weight of the muscular and nervous tissues. To these we must add the more rapid decay or waste of the tissues in warm atmospheres,* and doubtless also an imperfect renewal of tissue from diminished lung-work, that is, oxidation of the blood. On the other hand, the languor and weakness felt in the tropics are doubtless due, first, to loss and relaxation of the muscular element; second, to a similar loss and relaxation of the nervous tissue; third, to suboxidation of the blood, and therefore impaired activity both of the muscular and nervous systems; fourth, to a reduced supply to the muscles and nerves of the vital stimulant the blood, diverted largely from these centres to the cutaneous surface.

When an opposite change of climate is made, namely, from tropical to temperate regions, *physiological changes of an exactly reverse kind follow.* The heat of the surface and quantity of the perspiration return to the old standard; the pulse rises; the pulmonary function, and also the secretions of the kidneys, and probably the liver, increase in a corresponding ratio. It was also proved that the spirometric capacity, and therefore presumably that every one of the above phenomena, *oscillates* each time a change of climate is made, the functions of individual organs rising or falling in tropical regions and again returning to the old standard in colder latitudes, and so on indefinitely.

Again, if an inhabitant of the temperate zone proceeds in an opposite direction, namely, to a cold or arctic climate, the above physiological changes are still more marked. The pulse rises; the respiration is also quickened, and the excretion of carbonic acid and watery vapor by the lungs is increased. The urine increases, and doubtless both the actual secretion of bile and the proportion reabsorbed by the intestines for respiratory purposes. On the other hand, the cutaneous function is diminished. These phenomena increase till the sensation of cold, nature's safeguard, warns to keep the body warm by increasing the food, exercise, clothing, and artificial heat so as to prevent them from going beyond the healthy standard and becoming excessive, that is, pathological.

It follows that these phenomena have a certain healthy *range* and extreme limit both for the tropics and the frigid zone, certain bounds beyond which they cease to be sanitary and become pathological. This doubtless varies somewhat according to age, sex, race, and idiosyncrasy, a fact best illustrated by the pneumatic capacity of the chest in which the individual differences are well marked.† However, the percentages for different organs given in Table I. may be taken as a fair average of the *healthy* limits of increase and decrease; and this range doubtless holds good even when a greater change of climate is made than in this instance (42° to 88° Fahr.), as in British India, where the temperature is not unfrequently 160° Fahr. (Parkes), and arctic or antarctic regions, where the thermometer is not unusually considerably below zero. In extreme tropical heat the perspiration and various appliances used to cool the body usually suffice to prevent hyperæmia of the skin on the one hand and over-depletion of internal organs on the other, and thus maintain a healthy balance. In very cold climates similar objects are attained by clothing, fires, shelter, and food. And thus, however great the change of temperature, the range of function is kept within the above-mentioned healthy bounds.

* Carpenter's Physiology, p. 582.

† Proceedings of the Royal Society, vol. xviii.

It thus appears that during changes of climate the different organs, functions, and even tissues of the body are constantly varying and undergoing an almost ceaseless series of physiological fluctuations, especially marked in the secretions of the four great depurating organs, the liver, skin, kidneys, and lungs. The practical application of aberrations of these furnishes a clue to the *causation, development, and beginnings of many of those diseases, especially congestive and inflammatory ones, that are so common, severe, and often so fatal, both in cold and in warm latitudes.* And, clearly, if changes so manifold and important occur in the different functions of the body by a climatic change of 29° Fahr., *others at least as great are undergone by the inhabitants of the United States* during the greater yearly, monthly, and diurnal ranges of temperature to which even the stay-at-homes, and still more travellers, are subjected.

(To be continued.)

A CASE OF POTT'S DISEASE IN THE ADULT TREATED BY THE PLASTER BANDAGE—RECOVERY.

BY J. F. WALSH, M.D.,

Camden, N.J.

JULY 20, 1878.—Paid my first visit to Mary O. She gave the following history. Two years ago, health commenced to fail; she lost flesh and strength; appetite became very poor; noticed shooting pains in back and legs occasionally. Four months later, sharp, acute pain in right groin, extending to inner side of right thigh. Right leg became very weak and dragged in walking. On rising in the morning from the lying posture, experienced quite violent pain in lower portion of spine. Eight months later, a small lump appeared in right groin. General health gradually grew worse and worse.

I found her in a miserable condition: great anæmia; emaciation; dyspepsia and constipation; palpitation and dyspnœa on slight exertion; pulse weak and rather rapid; tongue covered by a thick, yellowish-white fur; a hectic, feverish state nearly every afternoon.

Examination of abdomen revealed a large tumor occupying the right iliac, about one-half of the hypogastric, and small portions of the right lumbar and epigastric regions. Tense, slightly elastic, dull on percussion. About half an inch above centre of Poupart's ligament, a slight elevation of its surface, where an indistinct sense of fluctuation could be detected. At lower portion of spine a posterior angular curvature, involving the last dorsal and two first lumbar vertebræ, was found. The bodies of these were enlarged and tender.

August 29.—Under the administration of tonics—cod-liver oil, iron, and strychnia—and laxatives, in conjunction with a generous diet, her general condition had now very much improved: hectic disappeared; bowels regular in their action; appetite increased. Abdominal tumor had slowly increased in size, and showed distinct signs of pointing. The elevation above Poupart's ligament more marked; fluctuation could be distinctly felt here, and the skin covering it was slightly discolored. It was aspirated by Dr. W. W. Keen, and thirty fluidounces of thick, laudable pus withdrawn. Operation caused no pain, but was followed by a sense of great relief.

For four days subsequently patient was kept in bed. No untoward symptoms manifested themselves. On second day after there was a slight febrile reaction, temperature going up to 99½°; but this subsided on fourth day. In interim cod-liver oil discontinued, and quinine alone administered. Nourishment light and unstimulating.

September 7.—Sayre's plaster bandage applied by Dr. F. C. Sheppard, assisted by myself. Patient delighted with the support it afforded, and was now too anxious to walk.

September 14.—I aspirated abscess. Twenty-eight fluidounces of pus, of same character as on previous occasion, withdrawn. Slight increase of temperature for the three following days, ranging between 99° and 99½°. Same treatment.

November 12.—Tumor having filled up to some extent, I again aspirated. After drawing off eight fluidounces of pus, the instrument got out of order, and I was obliged to desist, leaving some in the sac. No febrile reaction followed operation.

November 29.—Patient improved very rapidly; in fact, she now appeared to be in perfect health. Took a walk every day, and attended to her household duties. Cod-liver oil and quinine every day since September 14. Bandage having cracked,

a new one applied. Before doing this, abdomen and back examined. Tumor almost entirely disappeared; slight dulness on percussion over a small area above Poupart's ligament; angular curvature not increased; diseased vertebræ but slightly tender to pressure, and evidently consolidating.

December 29.—Patient had all the appearances of being in perfect health; in fact, felt so well that she refused any more medical attendance. Cod-liver oil discontinued.

July 15, 1879.—Met patient by accident. She told me that, feeling perfectly well, she took off the plaster bandage about four months ago, and had suffered no inconvenience in consequence since.

July 30.—Made an examination of abdomen and spine. Clear tympanitic percussion over area of former dulness; no tenderness. Diseased vertebræ well consolidated and entirely free from pain or tenderness; angular curvature slight.

At present writing (February, 1881) she says she feels nearly as well as she did previous to her sickness; occasionally, in damp weather, she experiences sharp, shooting pains in right groin and thigh.

Remarks.—The pointing of the psoas abscess above instead of below Poupart's ligament is peculiar and interesting.

A CASE OF PREMATURE LABOR INDUCED BY THE INGESTION OF A DRACHM OF CROTON OIL —RECOVERY OF THE PATIENT.

BY EDWARD T. REICHERT, M.D.

LATE in the evening, about a week ago, I was called out to see a woman whom I found to be suffering with considerable fever, pain, and with symptoms of inflammatory lesion. She was given a fever and anodyne mixture, to be taken in dessertspoonful doses every two hours until relieved, in connection with which was also prescribed a counter-irritant application, consisting of one part of croton oil to two of olive oil, with directions to rub the painful portion of the chest with it twice or thrice a day. The patient, being in impoverished circumstances, and unable to pay for the prescriptions, was obliged to wait until morning in order to obtain them at the city dispensary: consequently, morphia was given internally, and an extemporaneous counter-irritant used in lieu of the croton oil.

The following morning about twelve o'clock a messenger stated that the woman was decidedly worse, in great suffering, and asking me to come without delay. Having reached the scene of distress, the patient was found to be in a condition of semi-collapse, with a high fever, a rapid, feeble, and irregular pulse, pain in the mouth, throat, and stomach, and great distress in her bowels. On further questioning her, it was found that the first dose had caused violent purging, colic, and nausea, and an acrid, burning sensation in the mouth, fauces, œsophagus, and stomach: the purging was accompanied by tenesmus and burning at the anus. The second dose aggravated this condition, and headache, palpitations, and a condition of great depression ensued. A third dose had the effect of still further increasing the severity of these symptoms, and the purging and colic became violent, and to these symptoms was superadded a new feature, in the appearance of pains resembling those of labor, which grew worse and worse and only ceased when a seven-months' child was born. The birth had taken place before I had arrived, as had also the death of the child, which had lived but a few minutes.

Knowing, of course, the composition of the two mixtures prescribed, and that only one of the two could possibly produce such disastrous results, it at once became evident that through some mistake the patient had been given the wrong mixture; and upon further investigation this was found to be the case, the mistake lying with the attendant, as both bottles were labelled properly, and it therefore must have been due to the most flagrant carelessness. The woman had taken three full dessertspoonfuls of the oil in four hours, containing a full drachm of croton oil.

Stimulants were freely given, opium and bismuth administered every hour, counter-irritation made over the abdomen, liquid diet and absolute quiet enjoined. The abdomen in the region of the bowels remained tender for four or five days, and the stools were quite bloody and mucous for two days, but they gradually became more natural, and at the present writing are quite so. The woman is now feeling pretty well and strong, is using tonics, and to all appearances is well on in her convalescence.

CASE OF PLEURISY.

BY R. B. OKIE, M.D.

O. N., æt. 9 years, female. Had been treated for "gastric irritation," and sent to the country to "get well," by her homœopathic attendant,—this in consequence of an attack of illness towards the last of March, 1880, in which pain in the left side, fever, and difficulty of breathing were the prominent symptoms. Saw the child first July 12, in the evening. She was very much emaciated, pulse about 160, and respiration 54 per minute, temperature high, night-sweats profuse. Found the *left* side perfectly dull from apex

to base, intercostal spaces bulging, absolutely no respiration, and heart (apex-beat) half an inch to left of right nipple. Ordered quinia, digitalis, and alcoholic stimulants. Advised paracentesis thoracis, her father being sent for, and consenting. On the 15th of July drew off, by means of the aspirator, twenty-eight fluidounces of pus, the trocar being introduced one inch below and a little to the left of the angle of the scapula.

The child was greatly relieved, and began to improve. Heart-beat moved under the sternum, and lung partly expanded. The fluid again accumulated, and on August 8 tapped again, in ninth intercostal interspace, under the posterior angle of axilla. By holding the canula with the distal end well down, it was possible to empty the pleura more thoroughly, and forty fluidounces of pus were drawn off. Child so much relieved that she slept all night, and took quite a walk next day. By the 17th, as the effusion was again giving trouble, it was decided to introduce a drainage-tube. This was done by the curved trocar-needle, introduced two spaces above and a little to the front of the seat of the last puncture, and brought out at that point. Being threaded with a piece of perforated drainage-tube, the needle was withdrawn and tube secured. Fifteen fluidounces of pus were drawn, making eighty-three fluidounces in all. About two fluidounces of pus escaped daily at first, but gradually lessened, and October 5 the tube was removed. At present the child is in good health, pulse normal, respiration 28, heart in proper position, chest much flattened, but respiration on that side considerable and improving. A very slight daily oozing, about one-quarter fluidrachm, from the upper puncture, but no accumulation.

Quinia, iron, digitalis, and alcohol freely used. Iodine tinct., one-quarter strength, occasionally injected, and daily washings with a solution of potas. permanganate practised while possible.

Drs. Pleasants, Sargent, and Nancrede saw the case with me from time to time, and their advice and assistance I fully appreciate.

BERWYN, PA.

TRANSLATIONS.

VAGINAL CHANCRES.—Dr. M. P. Binet (*La France Méd.*, 1881, p. 38) reports two cases of true vaginal chancre. The first was a girl of 18, who showed an erosive syphiloderm of the fossa naviculari, slight swelling of the right labium majus, which was more red than the other, and multiple adenitis of the right inguinal region. On examination, the meatus of the cervix uteri was slightly open and eroded; there was double adeno-lymphitis towards the lateral culs-de-sac on the sides of the uterus. On the right vaginal wall, at the junction of the upper and middle third, the finger could perceive a depressed erosion, rounded in contour, sharply circumscribed, not painful. On examination with the speculum, the cervix showed follicular erosion, together with the glutinous mucous discharge of metritis. The vaginal erosion showed all the characteristic signs of indurated chancre: the floor red, smooth, shining, non-purulent; the edges slightly elevated, and passing without a ridge into the floor of the erosion and into the surrounding tissues, of which the color was normal; not excavated or everted. The lesion was about the size of a ten-cent piece, and was seated upon the right vaginal wall, near the inferior extremity of the os uteri. It was difficult to make out the induration, on account of the laxity of the vaginal walls and the distance of the lesion from the vulvar ring. However, in passing the finger lightly over the surface in the neighborhood of the erosion a slight resistance could be perceived, as of a more resilient surface. In addition, by passing two fingers deeply into the vagina a foliaceous induration could be perceived. The lymphatics running along the walls of the vagina were somewhat enlarged; they appeared to leave the erosion and run towards the indurated post-pubic ganglia. Small ganglia could likewise be perceived in the neighborhood of the obturator foramen. On the body an eruption of roseola, with some circular erythematous patches and discrete squamous papules, could be perceived. Under a mercurial and tonic treatment the various symptoms, including the chancre itself, disappeared without any local applications having been made.

Binet's second case was that of a girl of 19, who entered the hospital for erosions about the labia and anus. To the touch there could be perceived on the posterior wall of the vagina, just within the carunculæ myrtiformes, an eroded, non-painful, finely-rugous surface, of which the floor gave the sensation of greater resiliency. On ocular examination, the lesion presented the characteristics of chancre. Its floor was grayish, the edges slightly raised, not everted or excavated, and passing imperceptibly and without a ridge into the surrounding tissues. The lesion was roundish in shape, and was the size of a quarter-

dollar. Parchment induration under and around the sore could be distinctly made out with the fingers, permitting it to be enucleated, so to speak, from the surrounding tissues. There was some vaginitis in the culs-de-sac, and there were also follicular erosions about the os uteri, with the muco-glutinous discharge of metritis. No eruption on the general surface. The patient was under observation for two weeks, during which time (probably under the influence of treatment, though this is not stated) the chancre became almost completely cicatrized, presenting a smooth, pale, violaceous tint, with a slightly depressed surface.

In discussing the causes of the extreme rarity of chancre of the vagina, Binet attributes this to the fact that the virus must either be deposited in some abrasion or in a follicle. But the vaginal mucous membrane, with its thick layers of epithelium, is extremely resistant, and is rarely eroded in sexual intercourse. Moreover, it has no open glandular orifices. Vaginal chancre is extremely rare. Fournier, in two hundred and forty-nine chancres of the female genital organs, saw only one in the vagina, and that doubtful. Binet, in one hundred and twenty-eight chancres of the female genitalia in Martineau's wards at the Lourcine, only observed the two above given. No other observers have reported the lesion.

Purpura Hæmorrhagica.—Rigal and Cornil (*Vierteljahrreschr. f. Derm. u. Syph.*, Jahrg. vii., p. 575; from *L'Union Méd.*) conclude a careful and full paper on this subject by formulating purpura hæmorrhagica gravis as a group of symptoms characterized chiefly by effusion of blood under the skin and mucous membranes, and by progressive general debility resulting from exhaustion of the nervous system. Its gravity does not depend upon the amount of blood extravasated. The hemorrhage occurs through disturbance of vascular innervation, dependent either upon irritation of the sympathetic or upon diminished action of the vaso-motor centres. Although the alteration in the quality of the blood is not without significance, yet this is so variable and inconstant that it alone, without the vaso-motor disturbance, can hardly be regarded as a cause of purpura hæmorrhagica. Purpura hæmorrhagica of an acute character may occur in the course of chronic diseases, particularly of a cardiac character, before the cachectic condition has fully developed so as to be noticeable. The alteration of the vessels in the neighborhood of the ecchymotic patches may depend upon simple ectasis of the arterioles of the corium. In studying such cases, a careful distinction is to be made between purpura hæmorrhagica and variola hæmorrhagica, scorbutus, and hæmophilia.

Urticaria following the Use of Salicylate of Sodium (*Giornale di Medicina Militare;* from Dr. Heinlein, *L'Indipendente*).—Patient suffering from inflammatory rheumatism of right knee and elbow-joints. For the first ten days one-half gramme sodii salicylat. administered every half-hour, but no improvement. Four grammes at one dose were then administered. In the evening following, temperature 38.8°; pulse 90; urine albuminous. Patient could move the affected joints. Next evening, fever nearly gone. For three days patient experienced no pain, but on the fourth returned, and four grammes again administered. A quarter of an hour later, burning pains in forehead; five minutes later, acute burning sensation in skin covering right palm of hand; slight œdema and redness of both eyelids on each side. The blush soon diffused itself over left ear, neck, and upper lip. Very soon, intense itching of skin covering abdomen, followed by diffused red blush and an urticarial eruption; pruritus quickly extended over whole body; inferior extremities attacked by the eruption and blush, but the superior not; the latter were œdematous. One hour after, eruption disappeared, and three hours after this, the blush. A few hours after attack, urine contained no albumen. In two days all symptoms had disappeared. On two different occasions subsequently the same quantity was given, with like results.

Recurrent Parotiditis in Connection with Menstruation.—M. Halvan has reported to the Medical Society of Rheims (*La France Méd.*, 1881, p. 115) the case of a patient in whom double parotiditis occurred in the middle of each menstrual period. During the patient's pregnancies menstruation was suppressed and the parotiditis did not occur. But as soon as the uterus was emptied of the product of conception, even before menstruation was again re-established, the parotids became inflamed.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, MARCH 12, 1881.

EDITORIAL.

INDEPENDENT JOURNALISM.

IN an editorial in a late number of this journal some of the difficulties which press upon an editor were portrayed, more in a deprecatory than in a defiant manner. It was a plea for mercy, rather than a challenge to combat. In the present writing we propose to put a few facts in such a light as justice may require, and, whilst we would be as far as ever from defying any one, or claiming any wisdom beyond that given to other mortals, we desire to assert as positively as we can that whatever views are advocated in this journal are believed in at the time of writing by the editor, and that all editorials mean simply what their face shows, having no ulterior, hidden object whatever.

We are led to these statements by the violent assertions in the current number of a clamorous, though not influential, journal, that certain recent editorials in the *Times* were written for the purpose of supporting the medical department of the University. As medical journalism in this country is at present not sufficiently well paid to afford a livelihood, men of energy and ability who are not in some way connected with interests outside of journalism can scarcely be procured as editors. It is, however, libellous to assert that therefore they must prostitute their position to aid such private interests. The editorial history of the *Times* under the present management was that of a persistent, bitter attack upon the University of Pennsylvania until the faculty and trustees yielded to the pressure of public opinion and adopted a reformed curriculum. Since the change the University has by no means escaped criticism; and the recent onslaught on alumni societies was first made upon that of the University.

We reiterate here what we then said, that in this country loyalty should not be to institutions or men, but to principles, and that an alumnus who shouts himself hoarse, gorges himself at a banquet, or in any way bolsters an institution the management of which he has no representation in, and the methods of which he does not approve of, is doing violence to his own manhood and an injury to the profession.

In regard to Jefferson Medical College, we have refrained from speaking as plainly as concerning the deficiencies of the University, for reasons which are obvious. How far the institution is being managed for the good of the faculty, and how far for that of its alumni and of the general profession, is a question we very willingly leave to the judgment of our readers. How far its alumni are contented with its course we do not pretend to know. The size of the classes indicates general satisfaction; but such evidence is delusive. If, however, it be correct, there is evidently much necessity for persistently enlightening the profession of the country as to the responsibilities and needs of a doctor in these later times.

It is not probable that, this spring, medical alumni societies will to any extent demand representation in college boards; but the movement is right, and agitation in this country precedes—for a long time, it may be, but still precedes—reforms. Consequently, we will in hope steadily sow the seed, whether clods continue to be thrown or not, knowing that the successful pioneer must be able to endure as well as to labor, and that the end is sure.

THE newly-elected President of the London Clinical Society, Professor Lister, took for the subject of his inaugural address "The Catgut Ligature."

CORRESPONDENCE.

LONDON LETTER.

CIRCUMSTANCES at present seem to render it desirable to give American readers some idea of the position of the Royal College of Physicians of London, conspicuous at present from its decision in the Pavy-Gull difficulty, and in the matter of a knighthood for the retiring president, James Risdon Bennett. The College of Physicians is an ancient medical body, venerable in many respects, perhaps even infirm in others. It used to consist of members and Fellows: recently it has condescended to a licentiateship, and examines students as to their fitness to practise medicine. It also examines for its membership; and a very honest, fair, searching examination it is. Its Fellows are elected,—upon what plan has never been discovered. Now, in order to give the reader some conception of the position of the College, he must first understand that the College is the portal to a consultant's position,—*i.e.*, as a physician. A man may get his M.B. or his M.D. where he will, or even not be a graduate in medicine at all, but for a position on the staff of any hospital of repute he must be a member of the College. It is the one portal to the higher grades of medicine. The examination is one of strict fairness, and has never been disputed since a very painful case some twenty years ago, when the custom was inaugurated of preserving the examination-papers for five years, so as to be at hand to be referred to if any rejected candidate thinks himself aggrieved. But the Fellowship is a mystery: it is necessary to be approved of by eleven out of fifteen men, with whom the selection lies, and canvassing is strictly prohibited. Anyhow, it is from the Fellows that the examiners are chosen and that the lecturers before the College are selected: so that the Fellows are a very important body indeed. But the selections are not made by the body of Fellows, but by a board consisting of the President and Censors. Now, this committee is a very august body, as self-electing oligarchies are apt to be all the world over. But they are not always believed in by others as utterly as they believe in themselves, and it would not be in any accordance with truth to say that there is not a great deal of dissatisfaction about the election of Fellows. One glaring absurdity is that of the arrangement with the two old English universities, whose graduates can claim (or something equivalent thereto) to be elected Fellows as soon as their four years of membership have been completed,—the minimum time. Others, no matter what their position in medicine, or their accomplished work, have to wait the will, or sometimes the caprice, of the electing body, upon whom no pressure of opinion can be exercised, unless by private influence. The late Francis Anstie had to wait a long time for his Fellowship, because he was inclined to think for himself, and would not "ko-too," as I have heard him say. The gravamen of the delay is as follows. The Fellowship is withheld from members for unprofessional conduct; that is well known. Its delay, then, is apt to cause misapprehensions, and to mix up offenders and non-offenders very unpleasantly. Some little time ago, C. J. B. Williams tried to bring about some changes, so that the members should be placed more equally as regards their chances of being elected Fellows; but without avail. The College of Physicians, then, is a conspicuous body, possessed of very considerable powers, and responsible to nobody but itself, or rather its governing or ruling committee.

Now, part of its powers is its control over its Fellows and members, who are advised to live in harmony with each other and to treat each other with courtesy, nothing being said about their treatment of outsiders. A consultation among more than two of this select circle contains formalities not without interest; but these cannot be gone into here. Like other bodies possessed of powers, they have a machinery by which they can enforce compliance with their regulations: so an aggrieved Fellow (or member, though this latter would probably scarcely think it worth his while to ask to have his grievances considered) can cite another before the committee and have his conduct looked into. Censure follows disapprobation. Thus, it is said, the College "guarantees the conduct of its Fellows and members." Unfortunately, however, for the venerable College, one of its Fellows is a man of great hardihood of character, unsoftened by gentle lineage, viz., Sir William Gull, the well-known medical baronet. Sir William Gull has been a source of much tribulation to the senators of the profession,—the Board of Censors of the R. C. P. In the notorious Bravo poisoning case the baronet did not behave well towards George Johnson, Professor of Medicine in King's College, famous for his work in relation to diseases of the kidney, and for his difference of opinion from Sir William Gull and Dr. Sutton as to the changes in the arterial system found along with chronic renal disease,—a man, indeed, who deserves well of the profession. He appealed to the College, who decided that he had been aggrieved; but their censure was almost inarticulate. It had very little, if any, effect upon the headstrong baronet, who has not been long in again flaunting in its venerable face his indifference to its opinions, expressed or other. Some little time ago, your readers will remember, while the recent unhappy dispute at Guy's Hospital was in progress, a nurse put a patient into a bath with such neglect of proper precautions that she was tried for manslaughter, condemned, and imprisoned for her practice. The unlucky patient was under the care of Dr.

Pavy, whose researches on food, on diabetes, and on kindred subjects have procured for him world-wide reputation, and deservedly. The patient was the subject of pulmonary tuberculosis. Sir William Gull, without any consultation with Dr. Pavy, appeared in the witness-box, in virtue of his position as consulting physician to Guy's Hospital, in favor of the defence. This was an assumption, as regards the position of consulting physicians, felt by most persons as undesirable, to say the very least of it. The baronet gave it as his opinion that the unfortunate woman died of brain-disease, and that the painful incident of the bath had nothing to do with the fatal result. What effect this evidence had upon the jury is illustrated by their verdict. I have told you in a recent letter how the undergraduates of Cambridge received the medical baronet last August, when he appeared for his D. C. L.: there was no possible question about their disapprobation. Dr. Pavy complained to the College of Sir William Gull's behavior. The decision was as follows:

"January 12, 1881.

"The President and Censors of the Royal College of Physicians, having carefully considered Dr. Pavy's complaint and Sir William Gull's reply to that complaint, do not deem the character of the evidence which a Fellow or a member of the College has given on oath in a court of justice a proper subject to investigate, when the court has expressed itself satisfied in regard to the truthfulness and sincerity of the witness.

"They consider Sir William Gull, holding the opinions he expressed on oath, justified in going into court. They are further of opinion that Dr. Pavy's diagnosis and treatment of the woman afford no grounds for any remarks calculated to disparage his well-deserved reputation as an eminent and skilful physician."

Here follow the signatures of the president and four others. Now, this is "blowing hot and cold" at once. The baronet is held to have had "no grounds" for what he said on oath, but, believing what he did, he was "justified in going into court." This at least is what it means, if the language means anything. There lies a subtle satire underneath this quiet censure, as if the College declined to be the keeper of Sir William Gull's conscience. However, no gossip tells of the baronet feeling in any way rebuked or disconcerted by the decision; and probably he will run the risk of their disapprobation again, if so minded. But the example of so well known a physician being a repeated offender militates most materially against the authority of the College as a controlling body. In the General Rules for the behavior of medical men giving evidence in law-courts, in the "Medical Directory," it is written, "A medical witness should bear in mind that he should be well prepared on all parts of the subject on which he is about to give evidence." And, again, "No opinion should be given for which the witness is not prepared to assign reasons." Now, whether Sir William Gull set a good example to the profession generally, irrespective of his alleged duty to the College, or not, is certainly open to question. There is no question, however, that his example is not calculated to add to the dignity of the R. C. P., or to inspire dread in potential offenders.

Now for the consideration of the second matter, the knighthood of Dr. J. Risdon Bennett, the retiring president. I have been censured for asserting that socially the profession is not properly recognized in this country; but this little event shows how far the medical profession is beneath the sister professions, the law and the church. The dignitaries of the law are many; its head is the Lord-Chancellor. The church has two archbishops and the bench of bishops, lords spiritual. The medical profession can boast no peer in Great Britain or Ireland. What says the *British Medical Journal?*—"The outgoing president of the College is to receive knighthood. That is a dignity which is, perhaps, better reserved for civic personages; and if the College of Physicians is to receive an honor of the kind, it should be by the dignity of a baronetcy; and the College would, in the opinion of many, do better if, in future, it requested its outgoing president to decline knighthood if proffered in cases where there are difficulties in the way of conferring a baronetcy. A dignity more appropriate to the position of the College and the grades of the medical profession would be a K.C.B.-ship or the position of a privy councillor." The latter seems especially appropriate. The *Lancet's* remarks are very cautiously expressed, but are to the same effect. The *Medical Press and Circular* satirically remarks, "It will, we feel sure, be felt that Dr. Bennett is well deserving of a recognition of the amiable and excellent way in which his duties to the profession have been discharged during his tenure of office; and we congratulate him upon the appropriate manner in which he is about to be rewarded." There is an uncomfortable bluntness about the words "difficulties in the way of conferring a baronetcy," as if a baronetcy was for some occult reason withheld in this case. The last president, Sir George Burrows, was made a baronet. Why, then, is Dr. Bennett only to be a knight? "Comparisons are odious." The subject excites a good deal of comment in medical circles, if little elsewhere. It appears that baronetcies are not bestowed upon members of the medical profession unless they have been "court physicians;" and Dr. Bennett, though consulting physician to St. Thomas's Hospital, has been in repute chiefly in the city rather than in the court. Until he was made president of the

College, he resided in Finsbury. He is a Non-conformist, and it is said that his practice lay mainly among his co-religionists. He is the first president not belonging to the Established Church. Against this could not be set the fact that Dr. Bennett had contributed much to medical literature. He is the author of the Fothergillian prize essay for 1842 on "Acute Hydrocephalus," the Lumleian lectures on "Cancerous and other Intrathoracic Growths," 1871, and a translation of Dr. Kramer's "Treatise on the Ear,"—no very formidable list. It further appears that Dr. Bennett is the father of a family not exclusively confined to daughters. Had the latter been the case, the matter would have been considerably simplified. But Dr. Bennett has at least one son, a member of the profession, in general practice, and who has not as yet made his début in the higher rank of consultants. He is married and has offspring, and a baronetcy is inheritable. A baronetcy requires means to uphold it, and many a man has had to be content with knighthood when he has had male offspring. The "difficulties" are complicated; but, whatever some may think due to the president of the Royal College of Physicians, others think that, as regards the interests of the individual, Dr. Bennett is better off with the simple knighthood than with a baronetcy which might form a troublesome inheritance. It is, of course, unfortunate when the aspirations of a profession and the interests of an individual clash, and it seems a pity now that the choice of the College fell just where it did; but that is done and ended.

The *British Medical Journal* reiterates its poignant grief at the want of consideration of "the dignity of medicine," and quotes an evening contemporary to this effect: "By the favor of the crown, Dr. Bennett is to become a knight. If the president of the Royal College of Physicians thinks that knighthood can add to his dignity, a knight no doubt he will be; but the announcement seems to show that now, as in the past, the least-prized honor is held to be good enough for a leading member of the noblest of professions." Contrast with this the positions held by members of the profession elsewhere, as Virchow in Germany, Hyrtl and Rokitansky in Vienna, Larrey, Nélaton, and Broca, in France. Others have held honorary positions. Bacelli is Minister of Public Instruction in Italy; Alvarenga is a royal councillor at Madrid. It is in Great Britain, with an intensely liberal government in office, too,—which greatly adds to the sense of wrong (if it had been the late Conservative government, then a "liberal" profession could have consoled itself by thoughts of old-established class-distinctions; but a "radical" government, and the cup of its bitterness brims to running over),—in the country which is in the van of the world, that the medical profession has to see its head have to be satisfied with a second-rate distinction. It reminds one of what the late George Eliot said of Rufus Lyon, the Dissenting minister of Treby: "His gifts were admired, and tears were shed under best bonnets at his sermons; but the weaker tea was thought good enough for him; and even when he went to preach a charity sermon in a strange town he was treated with home-made wine and the smaller bedroom." So the outgoing president of the College of Physicians has, during his term of office, been asked to give the crown the benefit of his advice in difficult matters; but it does not seem that therefore the position of a privy councillor should be given him. If his advice was deemed worth asking, surely it was worthy of some such recognition. But then the medical profession in the services, in civil life, and elsewhere have to be satisfied with "the weaker tea" and "the smaller bedroom." Possibly the College will feel thus negatively encouraged to select for the future as president a member of the profession in whose case there will not eventually turn out the "difficulties in the way of conferring a baronetcy."

Probably the dignity of the profession would be more consistently consulted if it was distinctly understood that the presidentship of the College is not to be an indirect way towards approaching a baronetcy. Few men in the profession can afford such an honor; and it would be wiser not to place the profession in such mournful contrast with the law and the church as regards honors and titles. The profession is a noble calling, and it is unwise to mix it up with rewards which are inadequate to its real merits. It is dragging the reputation of the profession in the dust, this petty squabbling about the lowest of titles. Mr. Gladstone remains a plain "Mr.," and a knighthood cannot produce such a metamorphosis of the individual as can be very gratifying to either him or his relatives in the case of a president of the College of Physicians. But the College seems to be coming to evil days: as I write, the *British Medical Journal* takes it to task for the composition of its council, in which the provincial Fellows are conspicuous by their absence. It really must begin to set its house in order if it aspires still to be the guide in matters medical, or an efficient monitor. The medical world was scandalized lately by advertisements in non-medical papers of a popular medical book written by one who has been on its council and is now a curator. If those who stand high in its ranks so openly defy it, what restraining power can the College possess? It should either reform itself or abdicate. Fortunately, no such squabble about honors for the outgoing president can occur for a few years at least, as Sir William Jenner is the next president, and in him the profession and the public alike have the utmost confidence.

J. MILNER FOTHERGILL.

PROFESSIONAL SECRETS.

PHILADELPHIA, March 1, 1881.

TO THE EDITOR OF THE PHILADELPHIA MEDICAL TIMES:

DEAR SIR,—Dr. F. R. Sturgis's admirable letter in the last number of your journal, strong as it is, does not bring out all the objectionable features of the pending bill as to the testimony of physicians. It not only compels us to be silent and unwilling accomplices in known crimes, but it will often in civil suits be a bar to justice. In conversation with one of our leading civil lawyers lately, he called my attention to the fact that it would prevent the doctor's giving any testimony as to the testamentary capacity of patients making wills, and as to the mental condition of any patient, whether insane or not.

When the bill was first proposed, I suggested to the committee that in the phrase "neither allowed nor compelled to disclose," etc., the word "allowed" be stricken out. Attention was again directed to the objectionable word in an editorial in the *Medical News and Abstract* for December, before the bill was introduced; yet the word "allowed" has been retained, and has compelled an opposition from both doctors and lawyers, which I hope will be effective in amending the bill before it is passed, if indeed it be wise to pass it at all. That the New York State Medical Society is endeavoring to repeal an almost identical law is the strongest argument against it,—the argument of experience.

Very truly yours,
W. W. KEEN.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA ACADEMY OF SURGERY.

STATED MEETING OF JANUARY 3, 1881.

The President, DR. S. D. GROSS, in the Chair.

COMPLETE OSSEOUS ANCHYLOSIS OF THE KNEE TREATED BY REMOVING A WEDGE OF BONE.

DR. THOS. G. MORTON presented the following notes of the case:

About two years ago, the patient, John J. B., æt. 15, while chopping wood, accidentally wounded himself in the right knee with the axe, the blade entering deeply just to the right of patella, opening the joint. As a result, anchylosis took place; the limb assumed the position of flexion of leg towards thigh, and finally the bony anchylosis became complete, the function and original structure of the joint being completely abolished.

When admitted into the Pennsylvania Hospital, March 9, 1880, the limb presented the following appearance. The entire lower extremity has undergone considerable muscular atrophy; motions of hip- and ankle-joint normal. The leg is flexed at knee to rather more than a right angle, and the anchylosis of the joint is absolute. The patella appears to be slightly displaced outwardly, and is firmly adherent and immovable. The hamstring tendons are very tense. The general condition of the patient is excellent. Kidneys normal.

On March 12, after etherization, I excised with the saw a wedge-shaped piece of bone, the base of which included the patella and was two and a half inches in width. It was so cut as to make the wedge a truncated one at its apex, so that when removed, and the sawn surfaces brought into close contact, the leg would be brought not quite straight, but in a slightly flexed position; the patient thus being enabled, after recovery, to walk upon the ball of the foot, obviating the necessity for walking in a stamping manner upon a leg brought out perfectly straight.

After the ligation of a few articular vessels, the flap, which was a large, anterior, U-shaped one, was approximated by interrupted sutures of silver wire, a dressing of carbolized charpie was applied, and the limb placed upon a double-inclined plane of very slight degree of inclination, so that the sawn surfaces lay in exact apposition. Prescribed iron and quinia and solution of acetate of ammonia.

March 20.—The patient undoubtedly has erysipelas. The flaps very much swollen. Four stitches removed. Very free discharge of pus. Dressed with ung. zinci oxid. Temperature, 103.5°. Coincident with the rise in temperature a small amount of albumen appeared in the urine, but no casts were found.

March 29.—Albumen has disappeared. Temp. 99°. Erysipelas has subsided, but pus has burrowed back upon the outer side of thigh. This opened, and drainage-tube was inserted.

April 6.—Tinct. ferri chlor. stopped. Wounds, which now look well, dressed with carbolized charpie.

April 15.—Stopped quinia. The opening in thigh has closed; the line of flap granulating well.

April 26.—Some union exists between the bony surfaces.

May 18.—Granulations fungous. Applied sol. cupri sulph. gr. iv to f℥j.

May 28.—Bony union quite firm. Line of flap almost healed. Leg removed from double-inclined fracture-box and laid upon pillow.

June 4.—Plaster dressing applied, and, when set, cut and reapplied. Wound entirely healed.

June 20.—Walking with assistance of crutches.

July 2.—The operation was a success, and the result a perfect one. The limb is in position of slight flexion at the knee, and when he stands erect the ball of the right foot comes to within two and a half inches of the ground. The bony union is very strong, there being

no motion at all at the seat of operation. He was ordered a brace, consisting of a shoe with thick sole and high heel, side-irons, and knee- and thigh-brace.

THE TREATMENT OF FRACTURE OF THE LOWER END OF THE RADIUS.

Dr. R. J. Levis exhibited three patients under treatment for fracture of the lower end of the radius. These fractures had been produced in the usual way, by falls in which the weight of the body is received on the palm of the hand. Each of these cases had shown in a marked manner, at the time of the receipt of the injury, the ordinary deformity characteristic of the fracture. He presented the cases, at from about a week to three weeks from the receipt of the injury, to show the effect of complete reduction of the fracture and maintaining apposition in his moulded splint. The patients were entirely free from pain, and when the splints were removed for examination of the parts, there was good control of the movements of the wrist and hand, and no evidence existed of any of the unfortunate sequences which, it is admitted, generally follow the fracture.

Dr. Levis remarked that, from extended practical observation and the examination of pathological specimens, the following deductions may be summarized:

The ordinary fractures of the lower end of the radius, produced by falls on the extended palm of the hand, are situated at from one-quarter to three-quarters of an inch above the articular surface, and are transverse in direction. The characteristic deformity of the fracture, as originally described by Colles, is correct, but he erred in locating it at an inch and a half above the carpal extremity of the bone.

The theory of the fracture as described by Barton, "a quite small fragment broken from the end of the radius on its dorsal side," has not been verified by clinical experience or by pathological observation, and is not in accordance with the true mechanism of the production of the fracture.

The force which produces the fracture is, for the most part, transverse to the long axis of the bone, and tends only to produce transverse fracture. Violent over-extension of the hand is the important factor in its production, and the bone breaks immediately above its strong ligamentous connection with the wrist and hand. Force transmitted through the anterior carpal ligament is the immediate cause of the fracture.

Impaction, to a small extent, may occur by the posterior edge of the upper fragment being driven into the cancellated structure of the lower fragment, but it is not an important complication, and should not prevent coaptation.

Comminution is usually vertical splitting, and is caused by the same mechanical action as that which tends to produce impaction.

The displacement of the lower fragment backward and upward can always be overcome by strong longitudinal traction associated with forced flexion; and, in uncomplicated cases, the fragments, when completely reduced, will remain in apposition without any retentive apparatus.

When comminution by vertical splitting exists, and the fracture has been produced by great force, rupturing the surrounding dense structures, apposition may usually be maintained by keeping the wrist in a state of flexion, with the aid, sometimes, of the pressure of a dorsal pad.

The unfortunate sequences of the fracture, as generally treated, are due to *imperfect primary reduction of the displacement and the want of proper retention in apposition*. The usual long-continued impairment of function of the wrist and hand, and the painfulness which generally follows, are not due, as asserted by most authorities, to inflammation in the sheaths of the tendons, but *simply to pressure and irritation caused by the unreduced fragments*. That such impairment of function and suffering result from the ordinary incorrect treatment of the fracture by surgeons generally, nearly all surgical authorities attest.

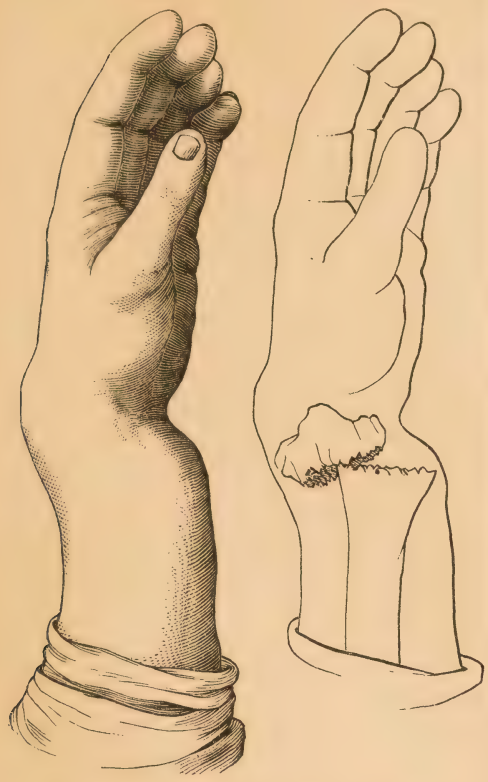
In support of this statement Dr. Levis quoted the opinions of Hamilton, Gross, R. W. Smith, of Dublin, Bryant, J. R. Barton, Callender, and Agnew.

Dr. Levis said that many years ago, whilst he was endeavoring to investigate the cause of the usual bad sequences of the fracture under consideration, he recognized its almost uniform position and direction, and concluded that its transverse direction, at that, the thickest part of the bone, could not be produced by longitudinal force, as had generally been taught. Examination of a number of cases of chronic deformity following the fracture, and of many museum specimens, demonstrated the fact that the mechanism of the fracture had not in the treatment of those cases been understood, and that the fragments had never been brought to proper apposition, and thus deformity, with its attendants of more or less suffering and disability, had continued through the lives of the patients.

He did not deny that fracture of the lower end of the radius may be produced by varied direct and indirect forces, and consequently show as much variety in its mechanism. But the form of fracture which is of most frequent occurrence, presenting the familiar characteristics, and which in its results, as ordinarily treated, is truly the opprobrium of the surgery of fractures, is a simple transverse fracture, very near to the carpal end of the bone, can readily be placed in apposition, and should not be followed by deformity or permanent disability. He had clinically taught and practised on these principles since the year 1861, and had asserted them in an address before the Medical Society of the State of Pennsyl-

vania in 1874, and again in a paper before the same body in 1879.

FIG. 1. FIG. 2.



The accompanying cut, Fig. 1, is from a cast taken from a recent case by Dr. Harte, one of the resident surgeons of the Pennsylvania Hospital, which well shows the characteristic deformity of the usual transverse fracture of the lower end.

The schematic outlines, Fig. 2, represent the relative position of the fragments.

The usual errors in the treatment of this fracture are in not recognizing the position and direction and the peculiar displacement of the lower fragment, and in not producing a correct apposition of the fragments. There is also the customary error of endeavoring to treat a fracture of a curved portion of bone by a straight surface of splint, which tends, after complete reduction, to again displace the lower fragment backwards. A pad fitted to the anterior radial curvature may be placed on a straight splint, but it is liable to slip out of position, and its action to be the reverse of what it is intended to accomplish. The moulded splint has the merit of following the curve of the anterior surface of the lower end of the radius, and the imbedding of the wrist and hand in corresponding portions of the splint secures the curve in its proper position with reference to the fracture.

The fixation of the wrist and hand in a state of slight flexion obviates the tendency of the lower fragment to upward and backward displacement. The moulded splint is of flexible metal, so as to be conformable to any fleshy or attenuated forearm. It is supplied by all the surgical instrument-makers at a cost of one dollar.

Dr. John H. Packard agreed with Dr. Levis in regard to the importance of perfect reduction, and showed a specimen of fracture of both radii, taken from an old woman, who died from other injuries about five days after admission to the Episcopal Hospital. When admitted to the institution, she was wearing two straight splints on each forearm, but the fragments had not been replaced. The fact of the non-reduction was very easily demonstrated. Coaptation of the fragments was effected without great difficulty, and maintained by simple means, viz., the application of thin slips of wood, properly shaped, along the radial edge of the anterior surface of each forearm. These were retained in exact position by means of broad strips of adhesive plaster.

Dr. Packard urged that the usual method of procedure, by mere extension, and drawing the hand towards the ulnar side, was ineffectual for reduction. By extension, followed by flexion, and moulding with the surgeon's fingers, the normal contour of the bone could be best restored; and, in order to maintain it, the concavity of the anterior surface of the radius at its lower part should be preserved.

Bond's splint, as commonly employed, is in his opinion a most fruitful source of deformity in these cases. He had used Dr. Levis's tin splint with satisfaction.

Dr. J. E. Mears inquired if there was not a difference between fractures entering the joint and those which were not thus complicated.

Dr. Levis replied that there would be more likelihood of arthritis occurring in the former case, but said the results were usually good if replacement was perfect.

Dr. T. G. Morton thought that immediate reduction under ether was of the greatest importance, and the kind of splint of little moment.

Dr. D. H. Agnew believed the mechanism of the fracture to be tension of the anterior radio-carpal ligament, and that the injury could be well treated by the method of Bond, with the hand in the natural position of rest. In his opinion Dr. Levis's plan acted by the extensor tendons being put on the stretch and holding the lower fragment down. He had treated cases in the perfectly straight position with good results. Passive motion should be begun early.

Dr. W. H. Pancoast stated that he was accustomed to use two straight splints with appropriate pads, and believed that the line of fracture was above the ligaments.

WOUNDS OF THE BLADDER.

Dr. Morton presented a specimen of wound of the bladder produced in what was supposed to be either a suicidal attempt or an endeavor to relieve a distended bladder by opening the abdominal wall. The man had been found with an incision in the right side of the abdomen made by a sharp instrument and apparently cut from below upwards. The bladder showed a small wound, and the peritoneum the commencement of inflammation. In the urethra there was found at the autopsy a white bone stud, such as used in fastening shirts. This may have produced retention, and caused the man to endeavor to evacuate the bladder by an incision. No history was obtainable, because the patient died on the way to the hospital.

Dr. Morton also showed a specimen of large rupture of the bladder taken from a heavy German, who fell over a stool and struck the abdomen. There was urine extravasated among the intermuscular spaces of the abdominal wall, but not much urine was found in the peritoneal cavity.

Dr. Wm. Hunt referred to an instance of perforation of the bladder by a sharp stick, which entered the perineum near the coccyx and opened the bladder. The wound was in a good position for drainage. The boy was catheterized for a time, but in about five weeks was able to pass his urine by the urethra. He finally recovered.

Dr. S. W. Gross had read of a similar case, where the leg of a stool entered the rectum through the anus and tore open the bladder. The patient recovered. The question of operation in cases of rupture of the bladder comes up for decision in some instances of the injury. In an early edition of his work on the Urinary Organs, Professor S. D. Gross had recommended opening the abdomen and mopping out the peritoneal cavity. Walter, of Pittsburg, Heath and Willitt, of London, have done abdominal section in cases of rupture of the bladder with extravasation into the peritoneal sac. Walter's case recovered; and Mason, of New York, and Walker, of Boston, have successfully performed perineal incision for free drainage in injuries of the bladder.

Dr. R. J. Levis believed it advisable, when urine was extravasated, to make a free opening in either the perineum or the supra-pubic region.

FATAL HEMORRHAGE FROM PERFORATION OF THE EXTERNAL ILIAC ARTERY DUE TO DOUBLE PSOAS ABSCESS.

Dr. R. J. Levis showed the specimen taken from a case, with this history:

Sarah J. T., aged 31 years, colored, states that she had never been a robust woman. Her present trouble began last May with pain in the back, etc. About six weeks ago she was compelled to go to her bed. About four weeks ago an abscess pointed and opened about an inch below the anterior superior spine of the ilium, discharging a large quantity of pus daily. When admitted, she had a long superficial sinus running from the opening towards the pubes, which was opened on a director. Her general condition was bad, and she was very weak and anæmic: hence she was placed on iron, quinine, stimulus, and nourishing diet. In spite of the careful attention she received, she lost flesh, and the discharge increased. The anterior superior spinous process of the ilium became denuded of periosteum, and bed-sores made their appearance on the prominent points of the back.

On December 25, 1880, shortly after being dressed, she had a severe hemorrhage coming from the abscess, from which she died in a few minutes.

Post-mortem examination showed two large psoas abscesses, filling up both iliac fossæ, the one on the left side discharging into the right through a sinus between the spinous processes of the third and fourth lumbar vertebræ.

The iliac vessels were dissected away from their attachments with the surrounding tissues on both sides, and a small ulcerated spot on the coat of the external iliac artery of the left side, about the size of a large goose-quill, showed a perforation which had allowed fatal hemorrhage. Both abscesses were filled with coagulated blood.

DEATH FROM HEMORRHAGE OCCURRING IN A CHILD FOURTEEN DAYS OLD, DUE TO A SCRATCH OF THE LIP.

Dr. John H. Packard recorded this case, in which a mere scratch, laying bare the cutis vera, possibly produced by the child's own finger-nail, began to bleed, and could not be restrained by astringents and the various means employed. The hemorrhage began when the child was seven days old, and recurred, until death took place at fourteen days.

JOHN B. ROBERTS, M.D.,
Recorder.

REVIEWS AND BOOK NOTICES.

A PRACTICAL TREATISE ON TUMORS OF THE MAMMARY GLAND; EMBRACING THEIR HISTOLOGY, PATHOLOGY, DIAGNOSIS, AND TREATMENT. BY SAMUEL W. GROSS, A.M., M.D. New York, D. Appleton & Co., 1880. 8vo, pp. xi., 246.

By accidental neglect of the reviewer, our notice of this valuable book appears somewhat late,—not, indeed, until the work has become widely and favorably known and gained its fully-deserved recognition by the medical profession.

The book is particularly interesting, for the following reasons. 1st. It is the only complete systematic treatise on the subject ever written; it is not a mere compilation, such as many books of this kind are, but is the result of prolonged personal research, sound thinking, and a conscientious analysis of the literature. 2d. It is written by an experienced surgeon, who is at the same time a surgical pathologist, and who, as is well known, has seen more and studied more tumors than any other living surgeon of the same age: he has fully availed himself of the unusually large material at his disposal. 3d. The book is of great practical value, and not bulky; it is attractively written, well illustrated, clear, and accurate.

This is not too much praise, as the following brief review, or, still better, a study of the book, will show.

Hueter, in Germany, was the first to suggest the writing of regional treatises on tumors. Abroad several useful monographs of this character have appeared; but Dr. Gross is the pioneer in this country in writing an original scientific treatise on tumors of the mammary gland, having shortly before published his investigations on sarcoma of bones.

In writing the book now before us, Dr. Gross has produced a treatise on tumors in general, for the neoplasms occurring in the mammary gland represent nearly all the tumors with which the surgeon ever comes in contact. The book commends itself to the notice of practitioners, as it embodies in a condensed form all modern views upon the subject of tumors, a feature for which one may look in vain in the standard text-books of surgery. The subject of synonymes, which is so much abused by various authors, is very much clarified by Dr. Gross. The author's deductions are founded upon the careful analysis of nine hundred and two cases of tumors and of sixty-five cases of cysts, all of which have been subjected to careful microscopical examination. One hundred and thirty-six of these were contributed by Dr. Gross himself; the rest he collected from the experience of others and from literature, exercising great discretion in selecting only those of recent date and reliable authority. Though he gives due consideration to the opinions of other authors, Dr. Gross deals only in facts arrived at through patient, careful study and experience, giving no indulgence to speculation.

The classification adopted by Dr. Gross is the histogenetic one of Virchow, as modified by Lücke, agreeing, however, with Birch-Hirschfeld in classifying the adenoma together with the carcinoma, terming the first typical and the second atypical epithelial growths. Contrary to Lücke, myxoma is excluded from the embryonal connective-tissue substances.

The evolution and transformation of mammary neoplasms are carefully and exhaustively treated, the author adhering closely to the blastodermic derivation of the same.

The etiology of tumors is duly considered, and valuable information can be obtained from the chapter on this subject.

Speaking of the varieties of tumors met with in the mammary gland, and the relative frequency of their occurrence, among other valuable statistical tables the following figures are given: of 777 tumors, 640 were carcinomata, 60 sarcomata, 50 fibromata, 18 adenomata, and 7 myxomata.

All the chapters on individual tumors are extremely well written, especially the one on carcinoma. Concerning adenoma Dr. Gross differs widely from other authors, and, although the chapter has been carefully worked out, it is not altogether free from objections, as, for instance, the division into tubular and acinous adenoma. In the first place, the tubular and acinous formations are always found in one and the same tumor in its different parts, unless too much disfigured by cystic change. Careful investigation has certainly demonstrated that every adenoma has both a tubular and an acinous structure in the different parts of its parenchyma, sometimes the one, sometimes the other predominating. The same can be said of carcinoma, where in one part the microscope reveals a fully-developed scirrhus, and in another part retrograde changes and excessive proliferation of connective tissue; while the same scirrhus in its later life-history gives the appearance of the so-called atrophying scirrhus. Hence a thorough examination of a tumor in its different parts cannot be too strongly recommended, and unnecessary subdivision can thus be avoided.

The chapter on cysts merits careful perusal, as it gives evidence of a thorough understanding of the subject, which could have been attained only by a rich experience. The naked-eye appearances, the physical properties, and the degenerations of tumors are exhaustively discussed.

We believe that in the diagnosis of tumors during life Dr. Gross cannot be surpassed. In the chapter on this topic he gives an admirable table on the differential diagnosis between carcinomatous and non-carcinomatous tumors, where the following points are conclusively considered as diagnostic points: Age of development — Social condition— Menstrual function — Hereditary predisposition — Injury and other exciting causes— Situation—Outline — Consistence—Multiplicity—Volume and rate of growth—Mobility— Relation to breast — State of nipple — Discharge from the nipple—Superficial veins— Condition of the skin—Fixation to the chest —Both breasts affected — Ulceration — Lymphatic glands — General condition — Local recurrence — Duration of life.

Another table gives the differential diag-

nosis between cystic and solid tumors; and, finally, the author draws fifteen conclusions from his own experience, relating to the differential diagnosis of individual tumors, which are unique in character and not to be found elsewhere.

As regards treatment, which comprises one of the most valuable chapters in the work, early removal is advocated, and the contra-indications for surgical interference are also most carefully pointed out. H. F. F.

GLEANINGS FROM EXCHANGES.

THE CATGUT LIGATURE.—In an article on "Some Points connected with the Treatment of Wounds" (*Brit. Med. Jour.*, 1881, vol. i. p. 150), Dr. William Macewen, after speaking of the disadvantages attendant upon the use of the silk ligature, formerly in universal use, says what was wanted was a substance which would be efficient as a ligature and which would not produce irritation in the wound. In catgut these desiderata are found realized. It is Dr. Macewen's opinion that secondary hemorrhage is not so often heard of since the introduction of catgut ligatures as when silk was used. The only objection to their use is that they soften within forty-eight hours, and so are not proper for use on large vessels. Mr. Lister has recently, it is said, discovered a method of preventing this rapid softening; but he has not yet made his procedure public.

Dr. Macewen has devised a chromicized catgut ligature, which he thinks will gain the end in view. These ligatures are prepared by making first a watery solution of chromic acid, one to five; then one part of this solution is added to twenty of glycerin. This forms a dark-greenish compound, in which the hanks of catgut are inserted and retained for seven or eight months, the bottle containing them being occasionally shaken. At the end of this time the catgut has acquired a semi-translucency, and has a dark color like preserved ginger. It is then ready for use, and is stored in a solution of carbolic acid and glycerin (one to ten). The size of the catgut which is of most use in ligating large arteries (excluding such as the innominate) is the medium; and this size has been very frequently tested since 1877. This chromicized catgut does not produce irritation, and Dr. Macewen relates several cases in which the ligature was simply absorbed and never heard from. Experiments show that the earliest date of absorption of the chromicized catgut is nine days after application, while the longest period is nineteen days, the average being a fortnight. This quality of durability makes the catgut peculiarly fitted for other uses than the ligation of large vessels in their continuity, such as the approximation of the pillars of the ring for the radical cure of hernia. In conclusion, Dr. Macewen says that the physical qualities of the catgut are such as to commend it as a ligature. It is very pliable, having very slight elasticity, but not sufficient to cause it to yield before the impulse of the current of blood in the largest arterial trunks. A firm secure knot can be tied on it. Physiologically it produces no irritation in the wound. It resists the action of the tissues for about a fortnight. It disappears about the twentieth day. It is eventually absorbed by the tissues, as is evinced by their action on the chromicized stitches. Chromicized catgut prepared in a stronger solution will resist the action of the tissues for a much longer period. Dr. Macewen suggests that it may take the place of hairs for drainage-purposes.

HYPODERMIC INJECTION OF ERGOTIN AS A COUGH-SEDATIVE.—Dr. James Allen, in a communication to the *British Medical Journal* (vol. i., 1881, p. 158), says that ergotin, injected hypodermically, in doses of from one to three grains, is a remedy of notable power in allaying coughs of various lung-conditions, and in diminishing sputum. Unlike some potent drugs, that occasion general distress out of proportion to possible good results, ergotin is not followed by any constitutional disturbance. However injected, there is local irritation: if into the subdermal connective tissue, suppuration may take place; it should be thrown deeply into a muscle, as the deltoid. In a small proportion of cases it entirely fails. Sedative effect persists for a day or two, and is likely to control a cough that has defied even the most cunningly devised linctus. In the severe harassing cough of advanced phthisis, not unfrequently exciting sudden fatal hæmoptysis, ergotin is indicated as a prophylactic. The internal administration of the liquid extract of ergot, in moderate or tolerably large doses, does not seem to have the same effect.

EFFECT OF A TOO LARGE DOSE OF GELSEMINUM.—Dr. De Wolfe (*Brit. Med. Jour.*, vol. i., 1881, p. 193), while suffering severely from facial neuralgia, took ten minims of the fluid extract of gelseminum. In half an hour he took another dose of the same strength. In fifteen minutes after the second dose he was so drowsy he could scarcely keep awake. There was great pain over the frontal region; no neuralgia. The pulse was weak and intermittent. He had cold, shivering, and dizziness. The pupils were slightly contracted, and there was a general feeling of collapse. He took a cup of very strong tea, and in five minutes was very sick, vomiting freely, but not feeling any better. He had then given to him a glass of strong brandy-and-water, which was repeated in half an hour. In two hours he was all right again. The neuralgia had gone, and has not since reappeared.

RUPTURE OF THE SPLEEN FROM A FALL.—Dr. Henry Tomkins gives (*Lancet*, vol. i., 1881, p. 134) the case of a woman who fell from a box three feet high, on which she was standing, striking her left side against a corner

of it. She complained at the time of being hurt, but not severely, and a few minutes after she resumed her work. From that time onward she complained more or less of her side, saying that "it caught her breath" and that she felt as if she had "a lump there." Her friends could not detect anything abnormal to sight or touch; there was no bruising. Three weeks after the accident she complained one evening of an increase in the pain, referring it now to the epigastrium. The next morning she was found dead in bed. The autopsy showed the body very anæmic; the abdomen was distended, and the peritoneal cavity filled with dark sanious fluid and numerous large soft clots. Beneath the edge of the ribs on the left side, extending across the epigastrium, was a huge dark mass, which proved to be the spleen. In size, speaking roughly, it was as large as the liver, and weighed at least four pounds, probably more. On the under surface the organ was ruptured, and, cutting into it, it was found to be hollowed out into a large cyst filled with soft coagula. All the other organs of the body were healthy and bloodless.

MISCELLANY.

PROFESSIONAL RELATIONS BETWEEN PHYSICIANS AND DRUGGISTS.—A committee of conference representing the regular pharmacists of this city on one hand and the Medico-Legal Society on the other have recently discussed the much-vexed question of the relations between the druggists and the doctors, reaching the conclusions expressed in the following resolutions:

1. "*Resolved*, That the subject of controlling the patent-medicine evil be referred to the Philadelphia Medico-Legal Society, and that they be requested to send a committee to druggists, requesting them to place out of sight patent-medicine signs and medicines, and discourage the sale of nostrums; said druggists to sign their names to such an agreement, and physicians promising, on their part, to throw all the weight of their patronage to such pharmacists as comply with the request."

2. "*Resolved*, That physicians, when writing a prescription which they do not wish renewed, should write on the bottom of such prescription, '*Do not Renew*,' and also inform the patient of the fact, in every case."

3. "*Resolved*, That as the diagnosis and treatment of diseases belong to the province of a distinct profession, and as a pharmaceutical education does not qualify the pharmacist for these responsible offices, he should, where it is practicable, refer applicants for medical aid to a regular physician."

The promoters of these resolutions suggest that lists of physicians and pharmacists who agree to the principles set forth in the agreement given below shall be posted in some public place where they may be seen for reference, while the pharmacists are requested to put proprietary and patent medicines out of sight and to discourage their sale.

And the regular medical profession are earnestly urged to withdraw all prescription patronage from all medicines patented or controlled by trade-marks, copyrights, or secret formulæ; and by withdrawing their business support from patent-medicine manufacturers and manufacturing pharmacists who aim to subsidize not only legitimate medical practice and legitimate pharmacy, but also the medical and pharmaceutical journals, with garish advertisements of patent and trade-mark pharmaceuticals, legitimate pharmacy and scientific medicine will be sustained, in their true sense.

The special agreement made by the pharmacist is as follows:

"I, the undersigned pharmacist, having examined the resolutions adopted at recent meetings of conference between a committee of the Medico-Legal Society of Philadelphia and representative pharmacists, at the College of Pharmacy, presented in the accompanying circular of said committee to physicians and pharmacists, bearing date of December 10, 1880; and having also examined the fuller explanatory provisions for inter-professional reform embraced in said circular; in order to elevate the profession of pharmacy to a consistent pharmaceutical basis, and promote needful reform in the relations between physicians and druggists, I hereby agree to protect the public welfare and the province of the regular physician, as well as the interests of regular pharmacy and legitimate pharmaceutical manufacturing, by placing out of sight all patent and trade-mark medicine signs and medicines, refraining from distributing all patent nostrum almanacs and other forms of such advertisements, and discourage the sale of all preparations offered by patent and trade-mark pharmaceutical speculators: I also agree that neither myself nor my employees will renew any physician's prescription marked '*Do not Renew*,' or its equivalent: I also agree that in all cases where applicants for medical treatment can be referred to a regular physician, such applicants will not be prescribed for in any manner by either myself or my employees."

The physician's agreement is as follows:

"I, the undersigned physician, having examined the resolutions and explanations embraced in the circular aforesaid, hereby agree to promote legitimate pharmacy and the manufacture of regular pharmaceuticals, by withholding my professional patronage from all patent and trade-mark pharmaceuticals, so far as I am able to comprehend the same, *and will throw the weight of my patronage and influence in favor of those pharmacists* who comply with the request of the regular medical profession regarding the correction

of the irregularities and abuses above specified in agreement of druggists, and will use the proposed list as my guide in selecting pharmacists worthy of professional and public confidence."

EMPIRICISM CONFIRMED BY SCIENCE.—To any one interested in medical archæological lore, a rich mine of interesting material exists in the numerous Gaelic manuscripts still existing in the Advocates' Library, Edinburgh, and elsewhere. These manuscripts are written in Latin, and by practitioners educated for the most part on the Continent, and ignorant, we may tell the vainglorious Southron, of the English language. It is interesting to note, possibly as a survival from our Gaelic physicians, that a popular cure for dyspepsia, not long ago, in the Highlands, consisted in the lining membrane of the gizzard of the cock, dried and powdered. Is this a case of the confirmation by science of empirical experience and observation?—*Medical Press and Circular.*

A MOVABLE ATLAS OF THE MALE ORGANS OF GENERATION AND REPRODUCTION.—This is now one of the well-known Atlas series, by Dr. Witkowski, and published in London by Baillière, Tindall & Cox. By means of a series of movable colored layers of paper, it shows the various structures which make up the male organs and the perineum. The view thus given is a very good one, and is quite sufficient for the student who happens to be reading anatomy when dissection is over. The Atlas will be found most useful for demonstration of parts during clinical instruction. The accompanying letter-press, translated by Dr. Campbell Black, contains some curious information, and is written in a very pleasant style; but it is not as full and definite either in physiology or in anatomy as would suit any student preparing for examination.—*Medical Press and Circular.*

EXCISION OF THE STOMACH.—Prof. Billroth, of Vienna (*Lancet*, vol. i., 1881, p. 268), recently excised about six inches of the greater curvature of the stomach, including the pylorus, for infiltrating carcinoma. The operation lasted an hour and a half. There were extensive adhesions to the omentum and colon. Fifty silk sutures were used to unite the duodenum and the remaining portion of the stomach. A week after the operation the sutures were removed from the external wound, which had united without reaction. The patient was doing well, and was able to take coffee, tea, and other light nourishment. This is the second operation of the kind. The first, by Prof. Péan, resulted fatally in four days.

PHOSPHIDE OF ZINC IN LOCOMOTOR ATAXY.—Dr. Hastings Burroughs (*Medical Press and Circular*, February 9, 1881) gives this drug in one-eighth grain pills,—one a day for a week, and then two daily, and so on up to five. He has treated his cases successfully thus far.

DR. LAURENCE TURNBULL, who is an acknowledged authority upon the ear and its affections, has just had published, through J. B. Lippincott & Co., the third edition of his monograph on Defective Hearing and the Hygiene of the Ear. Some of the subjects treated of are nervous symptoms, tinnitus aurium, etc., with a portion devoted to the home instruction of the deaf.

NOTES AND QUERIES.

PHILADELPHIA, March 4, 1881.

EDITOR OF THE PHILADELPHIA MEDICAL TIMES:

DEAR SIR,—I have just received from Dr. R. L. Sibbet, of Carlisle, Chairman of the Committee on Medical Legislation of the State Medical Society, the following copy of a note from a member of the House of Representatives, in regard to the bill to regulate the practice of medicine now before that body:

HARRISBURG, March 2, 1881.

MY DEAR DR. SIBBET,—Our bill has been read a second time, after a somewhat stormy debate, and has been ordered to be transcribed to third reading; vote, one hundred and thirty-one to five.

Yours truly,

W. B. ROBERTS.

The large majority thus indicated affords reasonable ground for the expectation that if physicians throughout the State will unite in urging upon their acquaintances in the Legislature the importance of the act, the present session will see it a law. I communicate this in the hope that some of the large number whom your journal reaches may be stimulated to use their personal efforts in its behalf.

Yours very truly,

BENJAMIN LEE,
Secretary of Committee on Medical Legislation, Medical Society of the State of Pennsylvania.

AT a meeting of the New York Academy of Medicine, held January 20, 1881, the following resolution was adopted:

Resolved,—That a committee be appointed by the President to investigate the extent to which leprosy prevails in the United States.

The President appointed as such committee Drs. H. G. Piffard, F. R. Sturgis, and G. H. Fox.

The committee are desirous of ascertaining the actual number of lepers in this country at the present time, and to that end respectfully request any physician who may know of the existence of a case in his neighborhood to communicate the fact to the chairman of the committee, at No. 10 West 35th Street, New York.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM FEBRUARY 20 TO MARCH 5, 1881.

MEACHAM, FRANK, CAPTAIN AND ASSISTANT-SURGEON.—As soon as able to travel, to report in person at Department Headquarters, for assignment to a station. S. O. 32, Department of the East, February 19, 1881.

GIRARD, J. B., CAPTAIN AND ASSISTANT-SURGEON.—In obedience to S. O. 14, c. s., A. G. O., relieved from duty in Department of Texas. S. O. 20, Department of Texas, January 29, 1881.

GARDINER, J. DE B. W., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for one month, to take effect when relieved by a medical officer, with permission to apply for an extension of five months. S. O. 16, Department of Arizona, February 8, 1881.

WILLIAM H. ARTHUR, GEORGE E. BUSHNELL, H. P. BERMINGHAM, and M. C. WYETH.—Appointed Assistant-Surgeons, United States Army, to rank from February 18, 1881.

PHILADELPHIA, MARCH 26, 1881.

ORIGINAL LECTURES.

CLINICAL LECTURE ON ARSENICAL PARALYSIS.

Delivered at the Pennsylvania Hospital

BY J. M. DA COSTA, M.D.

Reported by FRANK WOODBURY, M.D.

GENTLEMEN,—The man whom you now see is a very different patient from the man who entered the hospital some time since. His condition has greatly changed for the better; indeed, even his features wear a different expression: so that while I am reading the clinical history you will be obliged to make a certain allowance in order to appreciate the application of the notes to the case before you. I mention this that you will understand that the comparison which you will thus make mentally between the case and the record may not suggest any exaggeration or misstatement in the record, kept since the date of his admission, September 13, 1880. While some of the features then existing are still obvious, others are at present too slight to yield any evidence in regard to the cause or form of disease from which he has suffered. The patient's name is Andrew B.; he is 19 years of age. When he entered the ward he was in such an unfavorable mental condition that it was impossible to gain from him any trustworthy history; indeed, the notes say that he was for a time completely out of his mind; but, partly from his own statements and chiefly from what could be gathered from his friends, we learned that he had had gonorrhœa, and that he also had contracted syphilis about a year before admission. This, however, had not been followed by secondary symptoms, and in the main he seems to have been a healthy person.

From his statements it also appeared that about three months before entering the hospital he began dosing himself with arsenic with a view of improving his appearance, having somewhere learned of this practice among the Styrian peasants. He commenced by taking "small pinches" of arsenic,—arsenious acid, I presume,—and, increasing the dose gradually, he got up to about three or four pinches in the twenty-four hours. This had been going on for three or four months before his present train of symptoms appeared. For the last ten days before he came here he had been complaining first of sore throat, and, later, of abdominal pain, vomiting, and diarrhœa; he also had headache, bleeding at the nose, some cough, and decided palpitation of the heart. Notice these symptoms. You will say, How like the beginning of typhoid fever! So they were; and, what makes the resemblance greater, on admission he was even delirious. His temperature was 102½° (axilla), his respiration 26, and the pulse 130 to the minute. Everything indicated a fever of low type,—fever, mental wandering, dry skin, prostration. But what arrested our attention at once was what is stated very specially in the note, "his face and legs were œdematous." His tongue was coated; we also found upon examination that he had a slight right-sided pneumonia and a moderate amount of erythematous eruption or roseola upon the chest and abdomen. The urine was examined the morning after admission, and found to be normal. He was kept quiet in bed, and placed on a diet consisting largely of milk; his medical treatment was an ordinary fever-mixture and effervescing draught, with a little lead and opium for his diarrhœa, which was soon controlled. He rapidly got better; but it was found on September 30, notwithstanding the evident improvement in his acute symptoms, that he could not stand upon his legs; his mind too, was not in a healthy condition.

Let us now glance over this history. Here is a man who comes into the hospital with fever, some pneumonia, diarrhœa, and in short, in many respects, the symptoms of typhoid fever. As he recovers it is found that he cannot stand up, his legs will not support him; but it is also found that he can move his legs, although with reduced force, when he is lying down. We subsequently learn from his brother that he had an epileptic convulsion on the day before he came in. Another important point that I want you to remember is that the sensibility was good, indeed it appeared exalted; and he complained of a sense of formication, and frequently of aching pains in the muscles. He was very sensitive to tickling, and near the ankle he had some numbness,—perhaps from pressure upon

his heels. In making the examinations he cried and complained so much when sensation was being tested that we were, after several efforts, obliged to content ourselves with the general result above stated. He had at that time frequent jerkings of the muscles of the legs, and powerful reflex movements were easily excited. With some reference doubtless to the syphilitic history (I was not in charge of the wards at that time), he was placed upon sirop Gibert, which you recognize as an antisyphilitic remedy, consisting principally of iodide of potassium and biniodide of mercury. I mention these points somewhat in detail in order that you may know what the symptoms were, and what was the treatment, the better to understand the subsequent course of the case. But very little change took place under this treatment: indeed, his nutrition became worse, he was emaciated, almost idiotic in mind, rambling, incoherent, having illusions which greatly annoyed him, and made him so noisy at night that he much disturbed the other patients; he was very irritable and whining often during the day.

It was in this condition that I saw him when I first took charge of the ward. He was in a curious mental state, which I may sum up as in the main hysterical; there was great fretfulness, with frequent exhibitions of temper, alternating with spells of crying; he had to be fed like a child; he was restless, slept poorly at night, and was unable to stand; he told us that he had some pains in the legs on motion.

Now, we tested the legs, and found that the soles of the feet were very sensitive to the touch, and reflex movements increased. There was absent patellar tendon reflex, but he complained a great deal when the tendon was struck. The nails of the toes were growing, although there was decided muscular atrophy in the thighs as well as in the legs. The electro-muscular contractility was not lost to the faradic current; the rectus and sartorius contracted, but it required a strong current to make them contract; the sensibility to the current was poor in the legs, but better in the thighs. Ordinary tactile sensibility was not impaired; it seemed, indeed, that there was a certain degree of hyperæsthesia. Although the muscles were wasted, they did not yield the reaction of degeneration. The atrophy was about equal on both sides, and the circumference over the largest portion of the calf was only nine inches. The arms were well developed. As you notice, his frame is rather large.

Gentlemen, I placed our patient upon very large doses of iodide of potassium, with the most marked result. He has grown fat, his appetite is good, he can feed himself now, and often asks for more; his mind is much better; indeed, he is quite rational. His eye-ground, examined with the ophthalmoscope, shows a great deal of active congestion, a neuro-retinitis, but no choking of the disk nor atrophic change in the optic nerve. He only has a slight headache occasionally. He has lost his curious peevishness and hysterical manifestations; he sleeps well at night. In every respect, mentally and physically, he has improved, and in his features markedly so.

But what about the legs? Their condition you see for yourselves. You notice a state of affairs that still exists, though to a less degree than a few months ago; they have dwindled. There has been, however, a gain of more than an inch in circumference under the treatment. Your attention is called to the curious position of the legs and feet: owing to paresis of the flexors the feet are very much extended, so as to be almost in a line with the legs. He moves the legs and kicks when requested, although feebly; you see that muscular power is still impaired, though when lying down, as he is now, there is more power than when he tries to stand, which he is still unable to do without assistance. I do not think that there was ever entire loss of muscular power, but he has certainly regained much of it, particularly within the last three or four weeks. Notice the nails, which are still growing; they have emerged now some distance and are claw-like. Notice also the capillary congestion of the skin around the joints, and its thin polished surface as though its nutrition were affected. Sensation in the soles of the feet is good, and a prick with a pin produces at once reflex movements: he jerks away the leg instantly. Sensation of the leg itself is good; in the thigh it is very good. Indeed, at one time, as I have already told you, he seemed to be over-sensitive to touch, but on account of his mental condition it was difficult to find out just what he felt, and I have some doubts about his sensation, as he complained very much when he was disturbed. We may conclude from our examination

that still there is incomplete loss of power, without impairment of sensibility, in both lower extremities.

You saw that with an ordinary faradic current there was no contraction of the recti muscles. But when we used a very strong current the recti contracted, and so did the sartorii; that was with the slowly-interrupted current,—with a perceptible interval between the shocks. With the usual current of moderate strength there was no action. Using the same strength of current in the muscles of the leg, good contraction is produced in the gastrocnemius; in the flexors, where there is the greatest loss of power, there is only the merest quiver of the muscle even with a very strong induced current. Very much the same state of things exists in the left leg as in the right: there is scarcely any appreciable difference. But even when no movement is produced the man says that he feels the current. To complete the examination, I will add that the grasp of the right hand is deficient; the left also has a feeble grasp, but not quite so feeble as the right. The skin of the hands is soft; they are perspiring a great deal. The muscles of the upper extremities now respond to the current, although at one time they did so very feebly. They have gained in electro-muscular contractility, though never has it been lost in them to the same degree as in the legs; they have decidedly gained in power of voluntary movement, for a few months ago, you remember, he was unable to feed himself. The nails here are growing too, just as in the lower limbs. There is at present no heart or lung complication; an anæmic murmur which formerly existed has passed away; the heart is rather irritable and quick, but presents none of the signs of disease. The temperature now is normal; the urine is normal. The temperature became normal soon after the acute symptoms of the first days of admission passed away, yet until quite lately there have been occasionally, and seemingly without cause, sudden rises to 101° or 102°, lasting for a day or two,—on one occasion for a week; the highest temperature reached in these irregular rises was 103.5°, on the 25th of October.

Now, what is the explanation and significance of these symptoms? Here we have one of those rare cases of marked paralysis following chronic arsenical poisoning. As the case is so rare, I propose, first, to make out a more definite diagnosis, determining what in my judgment this form of paralysis here present really is; and, secondly, I shall offer some general remarks upon paralysis following arsenic.

What form of paralysis is this? We can say truly that it has been chiefly a spinal paralysis. I do not mean to say that there were no brain-symptoms, but the form of the paralysis has been what we find especially in spinal lesions. It is, I think, a spinal palsy. Next let us consider what variety of spinal lesion exists. The parts involved in the paralysis are, as you have seen, the four extremities; the arms, as well as the legs, have been affected, though the legs have borne the brunt of the disease. We must, I think, locate the lesion high up in the cord, or we must admit that it is general and extends throughout its length. From a review of the examination, we are forced to the opinion that the disease is a diffused lesion rather than a local one. What structure of the cord has suffered the greatest injury? Here I must allude to the more minute knowledge of nerve-structure and spinal disorders and some of the finer points in nerve pathology to which attention has only been comparatively recently attracted by the investigations of Erb, Charcot, Althaus, Seguin, and others. There are forms of spinal paralysis pre-eminently marked by progressive muscular atrophy, defective nutrition, and defective electro-muscular contractility,—defective rather than entirely lost: indeed, it is maintained by Erb that when the muscles fail to respond to the induced current they may even act more promptly to the galvanic current and with a weaker current than in health. Paresis is marked, wasting of the limbs is marked, and nutritive changes in the skin are marked, while sensibility is preserved; and many of these symptoms, as in acute poliomyelitis, come on acutely with headache and fever, and the paralysis rapidly reaches its highest degree. The muscular wasting becomes very marked; so it is in the lateral amyotrophic sclerosis of Charcot; and the nutritive changes, in addition to the palsy, bespeak in either case, though from a different cause, a certain alteration, degenerative in character, in the ganglion-cells of the anterior horns of the gray matter of the cord, which have so powerful an influence on nutrition. Now, when you look at the clinical features of the case before us, you see how closely they re-

semble those of a spinal paralysis with involvement of the trophic spinal centres,—how in many respects they are like those of acute anterior poliomyelitis.

I think I have now proved to you what kind of paralysis it is, and what is the seat of the marked lesions of the spinal cord here produced by arsenical poisoning. You see that it is chiefly in the ganglion-cells of the anterior cornua, and, judging from the marked motor affection, we know that the disorder has also diffused itself over the anterior or antero-lateral columns. The nature of the lesion is, I think, irritative or inflammatory, attacking, very likely, connective tissue as well as nerve-tissue.

The case that I have been expounding to you is, I believe, an important one from the point of view that it will give us a rather more accurate insight into the nature of arsenical paralysis than we have hitherto possessed. That arsenic will produce palsies, that these may happen without marked cerebral symptoms, that in certain cases atrophy of the muscles occurs, has been long known, and you will find in medical literature a number of instances reported. But, while these establish this fact, they are mostly cases of old observers,—as in the group brought together by Christison,—and so placed on record as to be next to valueless from the point of view of the requirements of modern scientific diagnosis and pathology. Still, I think that any one who will take the trouble of analyzing the cases, as I have done with a number, will at least be struck with this point, which indeed I do not hesitate to formulize into a law,—that arsenical poisoning, whether partial or general, is pre-eminently, I may say almost invariably, a spinal paralysis. In some instances it seems to affect a special nerve-tract at its origin, but in most instances the lesion is more diffused.

Now, as to the part of the spinal cord particularly involved, it is not always the same. The observations brought together by Jaccoud in which violent and diffuse neuralgias are mentioned forbid us to doubt that the posterior roots of the spinal nerves are sometimes implicated. But, reviewing the whole field, I have been impressed with the frequent absence of sensory phenomena; and I believe I am right in affirming that the poison exerts its influence particularly on the anterior or antero-lateral columns. I will go still further. In analyzing the cases, I have been struck with the number of instances of muscular atrophy terminating in fair recoveries; and, placing these together and examining them in the light of our modern knowledge of spinal affections, and bringing them in connection with this most striking case that we have been studying, I affirm that frequently the great ganglion-cells of the anterior cornua are involved, producing lesions similar to those of anterior poliomyelitis.

As bearing upon the subject, I will mention that in some very interesting researches in the September number of the *Archives de Physiologie* for 1875 a Russian physician, Scolosuboff, alludes to paralysis with muscular atrophy having been met with by him a number of times in the chronic arsenical poisoning which he states to be very common in Russia. Unfortunately, he gives no particulars and no clinical data to elucidate the matter; but, from an experimental point of view, and as aiding us in understanding the mode in which arsenic acts on the nervous system, his researches are very valuable, and may, I think, be most advantageously made use of in our argument. In animals slowly poisoned with arsenic, even where paralysis was produced, arsenic was found only in very small quantities in the muscles, while it was detected in very large quantities in the spinal cord and in the brain,—in amounts not only much larger there than in the muscles, but also much larger than in the liver. In the most conclusive experiment cited, the proportion of arsenic was as 1 in muscle to 36.5 in brain and 37.3 in spinal cord. In the more acute instances of poisoning the arsenic was first found in considerable amounts in the brain, and subsequently it accumulated rapidly in the spinal cord. The nervous symptoms of arsenic-poisoning, including the paralysis, we may, then, fairly infer are due to the localization of the arsenic in the nervous centres. The delirium, the epileptic convulsions, the headache, of the earlier stages bespeak plainly the brain-affection; the palsy, which is generally double-sided and not an early symptom, shows the presence of arsenic and the subsequent changes in the spinal cord, and is not caused, it is evident, by direct action of the arsenic upon the muscle.

Now apply these results to the solution of the case before us, and see how easily most of its symptoms are explained. Here was delirium at first, great mental

perturbation subsequently, a deeply-injected eye-ground: the arsenic was acting upon his brain. Indeed, there can be no doubt, if I read this clinical history correctly, that its action upon the brain preceded its action upon the extremities. He entered the hospital in this curious condition; but the resident physician informs me that he certainly was able to walk on that day, and it was not noticed until afterwards that he could not stand,—arsenic acting upon the spinal cord just as in the experiments upon dogs, where the spinal cord was found in a state of congestion, with more or less inflammation. But what portion of the spinal cord is principally invaded? This—which I have already explained to you will vary according to where the arsenic chiefly accumulates and leads to secondary changes—is solved by the clinical investigation. Here marked interference with nutrition showed that the disturbance must have been chiefly in the gray matter of the anterior cornua, where are situated the large ganglion-cells. Thus, applying the results of recent experimental investigation to the clinical history of the case, we have the pathological conditions unfolded, or at least made almost certain.

In concluding the review of the symptoms and the causes of the case, it may be of interest to you to know that we have used the muscle-trocar of Dr. Hart upon these wasted muscles of the legs, and found that they had undergone considerable degenerative change. Some of the fibres showed fat-globules, but the most of them had rather a waxy appearance. So far as I know, these microscopic changes have not in cases of this kind before been demonstrated. I will therefore describe them more in detail. The tissue was pale. The changes noticed in the muscular fibre were those of simple atrophy, reduction in size with faintness of striation, rather than fatty degeneration; there was also a state of things akin to waxy change, the fibres were found converted into rounded lumps, and broken up transversely, their corners rounded off, resembling the waxy degeneration sometimes found in the muscles of typhoid-fever patients. They were not, however, homogeneous vitreous masses, but clouded, and granular for the most part; yet fragments were seen which were highly refractive and lustrous. There was some fatty atrophy of the connective tissue, and here and there hyperplastic changes, not only relative but absolute.

You see the remarkable improvement in the muscular system which is taking place, and you can believe me that the mind also has improved: so that we are now able to assume that the disorder of the spinal cord, like that of the brain, will soon pass away; at least it will do so to a very great extent.

It only remains to speak of the treatment, and what remedy has been especially serviceable. Iodide of potassium in large doses, in my opinion, has been the principal agent in effecting the beneficial change. Iodide of potassium is not only very effective in eliminating mineral salts from the system, but at the same time it favors better nutrition after morbid processes. It is used in various forms of metallic poisoning, and some of its good effects in this case I attribute to its power of elimination. But I cannot think that it has acted this part alone: it has also been a great modifier of tissue-change, and especially of pathological change. However this may be, we cannot doubt the result: there has been great improvement. You could hardly believe the patient to be the same person if you had seen him, as we did, a few months ago, so emaciated and almost idiotic. He has been taking twenty grains of the potassium salt three times a day, which comparatively large dose he has borne well and fattened under it. Previous to its administration, while mainly on general tonics, he was not gaining. He has good diet, and to the affected muscles the faradic current is applied every second day.

You may ask, Will complete recovery take place here? In the brain, yes. I do not believe that there will be any alteration or serious impairment of the mental powers; the brain-cells will be restored to their normal functions. Will he recover fully the use of his limbs? In the upper extremities, yes; but in the lower extremities I scarcely think that he will ever do so entirely. He may walk about, even without crutches, but I hardly believe that he will recover the use of these wasted flexor muscles of the foot.

Judging by the improvement of the last month, he will come very near to a recovery; but he will never be entirely a healthy man, as he was before he began the habit of taking arsenic in pinches for its beautifying effect.

March 7.—I add this note as to his present state. His general condition is good; he has continued to gain in flesh, weighs 132 pounds. He can now read with the aid of the same glasses that he used before he fell ill; has no headache, only occasional vertigo; the muscular system is well developed in the upper half of body; the legs are gaining in size,—left calf measures 11½ inches, right, 11¼ inches. He can walk with a cane, and go up- and down-stairs by himself. The appetite and digestion are good. The skin is in good condition, except in the feet, where there is some erythema and scaling; around the toe-nails there is superficial ulceration. He sleeps well at night, and is in good spirits.

ORIGINAL COMMUNICATIONS.

THE PHYSIOLOGY OF CLIMATE, SEASON, AND ORDINARY WEATHER-CHANGES.

BY ALEXANDER RATTRAY, M.D.,
San Francisco.

(Continued from page 369.)

THE PHYSIOLOGY OF SEASON.

IN regions where spring, summer, autumn, and winter are well marked, and the annual thermometric range is considerable, the physiological changes induced by the rotation of the seasons correspond more or less with those caused by zonal change of climate. For example, Table IV., which epitomizes some observations made in San Francisco during 1878–79, proves that the spirometric capacity of the lungs rises from two hundred and forty to two hundred and sixty-seven cubic inches under an increase of 35° Fahr. in-doors.

TABLE IV.—TO CONTRAST WINTER AND SUMMER SPIROMETRIC CAPACITY.

	Winter.		Summer.		Difference.	
	Temperature—Air. Fahr.	Spirometer. Cubic inches.	Temperature—Air. Fahr.	Spirometer. Cubic inches.	Temperature—Air. Fahr.	Spirometer. Cubic inches.
Lowest	51°	240	66°	243	15°	3
Highest	75°	252	86°	267	11°	15
Average	65°	248	70.5°	259	5.5°	11
Range	...	...	35°	27		

Table V. further shows that the number (and, doubtless, the depth) of the respirations are diminished.

TABLE V.—TO CONTRAST THE NUMBER OF RESPIRATIONS PER MINUTE, SUMMER AND WINTER.

	Winter.		Summer.		Difference.	
	Temperature—Air. Fahr.	Respirations per minute.	Temperature—Air. Fahr.	Respirations per minute.	Increase of Temp. Fahr.	Reduction of Resp.—Summer.
Lowest	58°	13.5	65°	12	7°	1.5
Highest	75°	16.5	86°	16	11°	0.5
Average	66°	14.	70.6°	14	4.6°	0.5

Tables IV. and V. together clearly indicate a reduced respiratory function and pulmonary vascularity during summer, similar to what occurs during tropic heat. Again, Table VI. shows that the temperature of the body (in-doors and under the tongue) rises perceptibly in summer,—namely, from 99.62° (average winter temperature) to 100.16° Fahr. (average summer temperature),—a fact which corresponds with and corroborates the rise observed in the tropics.

TABLE VI.—TO COMPARE THE SUMMER AND WINTER TEMPERATURE OF THE BODY.

	Temperature. Winter.		Temperature. Summer.		Difference in summer.	
	Air.	Body.	Air.	Body.	Air.	Body.
Lowest	58°	98.75°	65°	99 50°	7°	0.75°
Highest	75°	100.25°	86°	100 50°	11°	0.25°
Average	66°	99.62°	70.6°	100.16°	4.6°	0.54°

Again, Table VII. shows that the pulse beats less frequently (and, perhaps, less forcibly) in summer. This corroborates former observations for the tropics.

TABLE VII.—TO COMPARE THE SUMMER AND WINTER PULSE.

	Pulse. Winter.	Pulse. Summer.	Reduction in summer.
Lowest	68	72	
Highest	100	86	
Average	84.2	83 9	0.3

While these phenomena are in progress there is, doubtless, a slight change in the hepatic secretion also. The perspiration is likewise notably increased, and the urine perceptibly diminished.

On the return of winter, results of the very opposite nature ensue, corresponding

to those which occur on moving from tropical to temperate regions; and, although in the climate of San Francisco, where the thermometer seldom falls so far as, and never goes much below, the freezing-point, and the annual range of temperature is comparatively small, these evidences of functional change are not so great as they are in other parts of the Pacific slope, and especially in the Middle and Eastern States, where the summer heat and the winter cold are much greater, still, they are sufficiently marked to be both interesting and important. In the latter regions, where the thermometric range is considerable, these physiological changes are correspondingly increased, and more like those induced by climate. And there can be little doubt that both in their cause and sequence these seasonal phenomena are not only identical with the greater ones induced by zonal change of climate, but also that they sometimes even rival them in extent and importance. In summer there is an increase in the cutaneous vascularity and function, and a reduction in those of the lungs, kidneys, and other internal organs and parts, while during winter the internal organs become turgid and functionally active at the expense of the external ones.

THE PHYSIOLOGY OF ORDINARY WEATHER-CHANGES.

The frequent, often considerable and sudden, diurnal weather-variations, which occur everywhere and mark one day from another, night from day, and even one part of the day or the night from another (for example, mid-day or midnight from morning and evening), induce physiological phenomena in every respect like those caused by climate and season. On a warm day, or during a succession of warm days, the pulse (*cæteris paribus*) becomes slower and feebler; the bodily temperature rises somewhat; the perspiration increases; and if the ingesta, exercise, and repose were alike, the urine would be less in quantity by day than by night, owing to the higher temperature. As it is, it is greatest then, because these influences more than counterbalance the effect of heat. The respiratory function is also least active during the *warm* hours of the day. This is shown indirectly by the spirometric capacity being greatest then. For example, it fell from two hundred and sixty-one cubic inches at 3 P.M. (temperature 73° Fahr.) to two hundred and fifty-two cubic inches at 11 P.M. (temperature 68° Fahr.) It also rises and falls all the year round, with the difference between one day's temperature and another. Thus, in summer, at 3 P.M. (temperature 68° Fahr.) it was two hundred and fifty-two cubic inches, whereas next day (temperature 74° Fahr.) it had risen to two hundred and sixty-one cubic inches, and the following day (temperature 86° Fahr.) to two hundred and sixty-seven cubic inches. In winter there is a similar rise and fall with the temperature. Thus, one day at 3 P.M. (temperature 68° Fahr.) it was two hundred and forty-nine cubic inches, next day (temperature 58° Fahr.) it fell to two hundred and forty cubic inches; on the following day (temperature 64° Fahr.) it rose to two hundred and fifty-two cubic inches. Doubtless the number of respirations and their depth are also diminished. And there can be little doubt that these physiological changes have the same cause, although less pronounced, partly from the slighter and shorter difference in the temperature, and partly from their being more affected than the climatic and the seasonal phenomena by such disturbing agencies as food, exercise, clothing, artificial warmth, etc., which sometimes counterbalance and even entirely obliterate them. Notwithstanding this, however, when the body is put under the strict conditions necessary for experimental research, or when the diurnal weather-changes are very marked (as they often are in some seasons and places), and the difference in the temperature is great, especially when the latter rises to tropical heat and sub-arctic cold, the physiological phenomena now mentioned are sometimes as great and important as those resulting from climate and season. Moreover, even when not so great as the climatic and the seasonal changes, these diurnal ones are often more trying and dangerous from their suddenness; and *many and severe diseases result therefrom in all latitudes*, especially when weak organs predispose, and where the diurnal range of temperature is great and trying.

Similar but minor phenomena likewise follow subjection to *artificial climates*. Thus, on moving from the cold external air into the heated atmosphere of a room, hall, church, etc., the bodily temperature, skin-function, and spirometric capacity of the lungs soon increase, while the number

of respirations diminish, thereby indicating a diminished respiratory function. For example, on going from the external air (temperature 30° Fahr.) into a room (temperature 57° Fahr.), an individual's respirations fell from 17.5 to 15.8 per minute, and the spirometric capacity rose from two hundred and thirty to two hundred and forty-two cubic inches. So also an individual's temperature (under tongue) rose from 97½° to 98½° Fahr. on going from a temperature of 52° to one of 63° Fahr. Phenomena of an exactly reverse nature follow an opposite change of temperature. When the difference in temperature is greater than in the above instances, the resulting phenomena are necessarily more important; and, though usually not so great as those induced by climate or season, these changes are frequently more sudden and correspondingly trying to the implicated organs, especially when the surface is unusually chilled by imperfect clothing. Unquestionably many inflammatory diseases of internal organs, especially the lungs, originate thus.

Similar but milder phenomena follow subjection to heat or cold otherwise induced, as, for example, by warm or insufficient *clothing*. The former not only increases the temperature and exhalation from the skin, but also augments the spirometric capacity by from ten to fifteen cubic inches, thereby indicating reduced lung-function. Thin clothing does the reverse, —chills the surface and congests internal organs. *Exercise* first lessens and afterwards increases the spirometric capacity. Thus, at 3 P.M. (temperature 66° Fahr.) a spirometric capacity was two hundred and sixty-one cubic inches; at 4 P.M., after a smart walk (temperature 66° Fahr.), it was only two hundred and forty-three cubic inches, showing that the lungs were congested and increased in physiological activity; but shortly after, when perspiration appeared, the spirometric capacity soon rose to the old standard, the skin having come to the aid of the lungs and induced what is known as the "second wind." So the hot-water bath increases the temperature in health (*e.g.*, from 97⅓° to 98½°), as well as the spirometric capacity of the lungs. As is well known, the cold bath has an opposite effect,—first cools the surface, and then the body generally, depleting the cutaneous capillaries and congesting internal organs.

These numerous and widely-dissimilar vital phenomena, arising from apparently occult factors either in climate, season, or ordinary weather-changes, invariably recur when the conditions are identical; and, with our present knowledge, it is now possible to explain and correlate them, define their extent, and point out their pathological, etiological, hygienic, and therapeutic bearings. Individually they are links of one chain; and the following table, in which the scattered, complex, and apparently disconnected data are grouped together, will go far to prove their relationship, collective association, and mutual functional bearing, ordinary or vicarious.

		+ indicates increased and — diminished function.	
		Change from temperate zone to tropics; winter to summer; night to day.	Change from tropics to temperate zone; summer to winter; day to night.
External organs	Skin function	+	—
	Skin temperature	+	—
Internal organs	Lungs	—	+
	Kidneys	—	+
	Liver	—	+
	Heart	—	+

Seeing that an increase of function—no matter whether that may be secretion or not—is equivalent to and aided, if not caused, by an increase in the vascularity of the involved organ, while a diminished function indicates a corresponding vascular depletion, it follows that the above physiological changes are equivalent to an *increased or diminished blood-supply;* and, following up this clue, it will next be noticed, from Table VIII., that an increased function and vascularity of certain organs invariably accompany an increase in other organs and a simultaneous decrease in certain others. Moreover, this increased or diminished vascularity and function occur mainly in organs whose functions are not only special, but also vicarious,—viz., the lungs, kidneys, skin, and liver,—that is, in the four great depurating organs; so that the change involves chiefly the excretion of carbon, water, and perhaps nitrogen.

It will also be observed that the organs thus physiologically grouped in vascularity and function, either on the side of increase

or of decrease, are the *internal* and the *external*, the *external* being most vascular and active in *high* temperatures, with a corresponding decrease in internal organs, while the *internal* are most active and hyperæmic in *cold* atmospheres, at the expense of the correspondingly depleted and inactive external organs. In short, change of climate, season, and such weather-variations as involve an increase of *heat* usher in two different sets of phenomena,—namely, an increased turgescence and functional activity of external organs and parts, with a diminished turgescence and functional activity of internal ones; while opposite changes that involve an increase of cold likewise induce two sets of changes the very reverse of those caused under the previous circumstances.

The only theory capable of satisfactorily explaining and correlating these apparently involved and contradictory physiological phenomena is that they are, individually and collectively, due to what may be termed the *climatic* law of the circulation, the main feature in which consists in a change, redistribution, readjustment, or diversion in the blood-current, which in *warm* atmospheres tends more towards *external* organs—that is, to the skin, cutaneous glands, etc.—and necessarily less towards internal ones. In *cold* temperatures the reverse follows, the lungs, kidneys, liver, and other internal and circumosseous organs and parts being then congested and functionally excited at the expense of external or peripheral ones. The great base fact thus is that these phenomena are merely the outward and visible expression and result of this great and important law, that *heat* congests *external* organs, thus depleting internal ones, while *cold* does the reverse, and congests *internal* organs by depleting external ones. Doubtless the entire volume of the blood and every organ and part of the body participates in these changes, and becomes either anæmic or hyperæmic, according to its position and relations. The extent of the resulting phenomena shows not only how much these factors—climate, season, and weather—influence individual parts and the body generally, but also that they affect it more than any other agency to which it is exposed.

Although the body, both in its healthy and in its diseased states, is materially affected during climatic, seasonal, and weather changes by other meteorological influences, especially the amount of sunshine, humidity, barometric pressure, electricity, situation, physical condition and conformation of the country, chemical and physical purity of the air, etc., unquestionably the never-absent factors which have most to do, directly or indirectly, with the production of this diversion in the blood-current and the resulting physiological phenomena are *heat* and its reverse, or, rather, its absence,—*cold*. Both of these, moreover, are double factors, inasmuch as they involve not only the temperature of the *air*, but also, and primarily, that of the *body*, especially the cutaneous system.

Seeing that the highest temperature during these experiments was only 88° Fahr., and as the resulting physiological phenomena begin to manifest themselves long before the temperature of the air reaches that of the blood (98° Fahr.), or even the lower temperature of the skin,—say when the aërial temperature is 90°, 85°, or 80° Fahr., and even less,—it follows that they do not arise either from direct or radiated solar heat, nor, indeed (except indirectly), from the heat of the air at all, but from the withdrawal of the cold air, the effect of which kept the cutaneous temperature down, and the resulting slight increase in the surface caloric of the body. That the latter would soon rise considerably higher than it does but for the cooling produced by evaporation of the increased perspiration is proved by disease and the increased temperature of the skin when the perspiration is stopped. This slightly-increased cutaneous heat is, doubtless, the earliest of all the physiological results of increased aërial temperature, and the forerunner of the subsequent and major ones. An early sequel of this is hyperæmia of the cutaneous capillaries, induced partly by the direct sedative, relaxing, and dilating effect of heat on the vessels, in or near which the surface caloric is generated, and partly, and no doubt mainly, through the cutaneous nervous system.

Modern research is proving, step by step, that not only this but every organ, part, and even cell, every function and vital process, is, both individually and collectively, under the control of the nervous system. Luchsinger, Wood, Field, and Nawrocki have lately shown that the sweat-glands have definite nerve-fibres and

special nerve-centres situated probably in the medulla oblongata and spinalis. Stimulated by heat, the thermic nerves and centres, acting, doubtless, in concert with the sudorific centres and nerves, soon induce increased perspiration, the evaporation of which withdraws latent heat, and thus cools the surface, as the cold air previously did. Adamkiewicz has shown that external physical, and therefore internal or body, caloric is one of the stimuli which excite this secretion, and also that the activity of the secretion seems to stand in direct relation not only to the temperature of the air, but also to that of several parts of the body.* Experiment has also shown that the secretion of sweat is essentially independent of any changes in the general circulatory system, but is controlled by the nervous system, thus proving that perspiration is not a mere transudation, but the result of the excitation of special glandular cells by the stimulation of certain nerves, which act according to the varying wants of the system. On the other hand, on subjection to a cold or temperate atmosphere this acts as a stimulant and ultimate paralyzer of the sudorific nerves, and a direct contractor of the cutaneous capillaries, thereby checking the perspiratory function. Moreover, while these changes in the cutaneous system are in progress, either from heat or from cold, the nervous system is simultaneously increasing or decreasing the circulation and functional activity of other vicarious or independent organs, and at the same time adjusting and correlating them, and acting as a bond of union in keeping the whole in harmonious — that is, in healthy — action.

In taking a comprehensive view of the subject, the most important and, indeed, paramount physiological effect of heat, and that which causes a majority of the others, is thus a constantly-varying balance of the circulation, during which the vital tide-wave sways under cold more towards central or internal (cranial, thoracic, abdominal, pelvic, and circumosseous) organs and parts, and under heat more towards external or peripheral ones, the one becoming injected or turgid at the expense of the other. The necessary result of this frequent oscillation in the blood-current is a constant change, by way of increase or decrease, in the functions of the different organs thereby depleted or congested, especially the secretory ones. In short, the local vascular determinations or anæmiæ thus induced are the causes of the different climatic, seasonal, and weather physiological changes above described.

It also follows that, in the United States or elsewhere, the greater the thermometric range encountered, either from change of latitude, altitude, season, or local weather-variations, the greater are the physiological changes so induced, and the more important these are from both a hygienic and an etiological point of view; and equally apparent is it that in places where the thermic range is less these changes are correspondingly reduced in extent and medical significance.

These physiological facts bring into especial prominence the function and vascularity of the skin, that organ which in the tropics has to bear the brunt of this sanguineous tide-wave from internal parts, and the chilling of which in cold weather sends a corresponding tide-wave to congest internal organs. Medical men, familiar enough with the larger vessels of the circulation, are too apt to overlook or underrate the great extent and importance of the capillary system, especially that of the cutaneous surface, the organ in which the physiological changes now spoken of mainly originate, seeing that it is on the cutaneous nerves and capillaries that the heat or cold which induces them first acts. Internally the blood is massed together in bulk, whereas on the cutaneous surface it is minutely divided and spread out in a dense net-work of capillaries. These microscopic vessels are not only the largest in the body next to those of the medulla of the bones, varying from $\frac{1}{3500}$ to $\frac{1}{2000}$ inch in diameter, but are so thick-set that they are separated by interspaces only three or four times larger than the vessels. The great importance of the cutaneous capillary system will become more evident if we recollect the vast extent of the cutaneous surface and the many structures which this great emunctory includes. These vessels supply,—1st, the perspiratory *glands*, which (reckoning two thousand eight hundred to a square inch and two thousand five hundred square inches as the cutaneous surface of a man of ordinary size) gives about seven million glands, which is equal to one million seven hundred and fifty

* London Lancet, June 14, 1879, p. 852.

thousand inches, or twenty-eight miles, of tubing;* 2d, the tactile *papillæ*, which Sappey estimates at one hundred and fifty millions for the entire surface;† 3d, the cutaneous *lymphatics;* 4th, the numerous hair *follicles;* 5th, the sebaceous *glands;* 6th, the *corium* itself; 7th, the *fat clumps* beneath it; 8th, the subcutaneous *cellular tissue.* Another apparently trivial but correlatively significant fact,‡ which will show the importance of the capillary system and prove that the volume of blood which these are capable of receiving is much greater than usually supposed, is this, that the combined area of the smaller venous branches is greater than that of the main trunks, so that the venous system and its contents represent a cone, the *summit* or smallest part of which corresponds to the heart, and the *base* to the circumference of the body. The capillaries which intervene between the venous and arterial radicles are necessarily of still greater volume; and thus we may estimate that the proportion of the total blood of the body which these cutaneous capillaries receive is probably not far short of one-fourth, if not one-third, of the whole.§ These facts will show that as with the capillaries generally, by which the most important processes of the body, both of animal and of vegetable life, are carried on, so those of the skin really play a far more important rôle in the animal economy than the larger conduits. The cutaneous nerve-supply is equally bountiful. Some idea may thus be formed of the importance of this vasculo-nervous net-work, and the amount of blood which at all times circulates through the skin, and the quantity which may be withdrawn from the general blood-current of the interior and diverted skinward to congest the cutaneous capillaries by exposure to heat, or, on the other hand, returned so as to deplete it under the opposite influence of cold. For example, it has been shown that in 83° Fahr. the lung vascularity is diminished by 17.88 fluid-ounces through reduced respiratory function. This goes mainly to the cutaneous supply. To this add the 17½ per cent. derived from the kidneys, also the 0.15 per cent. from the liver, and a like percentage from other internal organs, the exact amount of which, for obvious reasons, cannot be given in figures, but which, nevertheless, goes to swell the blood circulating at or near the surface. The sum of this probably raises the *cutaneous* circulation by two or three pounds, that is, to a total of from nine to twelve pounds, instead of from seven to nine pounds, as before.

(To be continued.)

* Wilson. Krause reckons the sudoriparous glands at two million three hundred and eighty-one thousand two hundred and forty-eight in number (Kirkes).

† Nouveau Dictionnaire de Médecine et Chirurgie, tome xxvi, pour 1878. ‡ Gray's Anatomy, p. 535.

§ The total blood in the body is reckoned at one-fifth of the weight,—*e.g.*, at twenty-eight pounds in one hundred and forty (Kirkes).

OBSERVATIONS UPON RÖTHELN.

BY LOUIS A. DUHRING, M.D.,

Professor of Skin Diseases in the Hospital of the University of Pennsylvania.

WITHIN the past six weeks a number of cases of rötheln, or so-called "German measles," have come directly or indirectly to my notice. On several occasions I have been called upon to give an opinion concerning the eruption, the nature of which had not seemed clear to the gentlemen in attendance. In all of these cases the diagnosis proved to be rötheln. From the fact, therefore, that difficulty is sometimes experienced in recognizing the affection, and for the reason that the nature of the disease is not thoroughly understood, I beg to present the notes of several cases which have been recently under my observation. I shall also refer to some interesting data communicated to me through the kindness of friends. The first case that I shall give may be regarded as typical of the affection and of the efflorescence in particular.

I was asked to see a young lady, twenty years of age, whom I had a short time before attended for an attack of herpes iris. She was apparently in good general health. The evening before she had complained of stiffness of the neck and slight swelling of the cervical glands. Simultaneously there appeared a copious, superficial, erythematous eruption, occupying the neck, chest, and back. There were no febrile symptoms, nor was there even malaise. The pulse and temperature were normal. There was no sore throat, erythema of the fauces, cough, or coryza, but there was very slight suffusion of the eyes. This symptom, however, was not marked enough to be appreciable to the patient. She felt perfectly well.

Upon examination, marked engorgement

of the cervical and post-cervical lymphatic glands was found to exist. A half-dozen of the glands could be readily detected in passing the hand over the integument, enlarged to the size of small almonds. The eruption was now general. It was, however, most pronounced about the chest, back, arms, and thighs, and faded towards the hands and feet. It was multiform in character, and consisted of more or less confluent, disseminated, ill-defined, pale-red or rosy, punctate and small split-pea sized faintly defined macules. In some localities, as about the forehead, some of the lesions were slightly elevated, producing a somewhat roughened state of the skin. The punctate lesions, the size of small pin-heads, were seen to best advantage over the back. The larger lesions were very indistinct in outline, and were irregular in shape and of variable size. They were all without exception ill defined. The efflorescence, therefore, as a whole, presented a light erythematous faintly macular form. The individual lesions could be isolated only with difficulty. Over the trunk the skin was everywhere hyperæmic, the lesions existing in such profusion as to constitute an almost solid sheet of rosy erythema. Nowhere could any large split-pea or finger-nail sized macules be found. There was no itching or heat of skin.

The eruption bore more resemblance to common measles than to any other disease, but the lesions were considerably smaller and finer, and were less distinct in outline and lighter in color than in this disease. Owing to the wide-spread diffusion and the punctate character of the eruption, an anomalous case of scarlatina might have suggested itself to an inexperienced observer, but the color was much paler than that met with in this disease. The complete absence of febrile symptoms, moreover, would have precluded it from being confounded with either scarlatina or measles. Apart from the efflorescence there was nothing to suggest measles. The view of the affection being a symptomatic erythema could scarcely be entertained, nor were the lesions large enough or sufficiently defined to suggest the idea of the erythematous syphiloderm. The punctate character of many of the lesions, moreover, was entirely adverse to such a view. The following day the eruption had faded appreciably, and the next day it had disappeared, leaving the skin the seat of the lightest possible desquamation. The whole attack continued about three days. At no period did the patient experience even the slightest malaise. There was consequently no occasion for treatment.

I would add to the history of this case that a younger sister, a child ten years of age, was reported to be just recovering from a slight disorder accompanied with a light erythematous rash, which the family physician had pronounced to be scarlatina. I strongly suspect, from the account given, that it was rather a case of the disease under consideration.

Another case presented itself to my notice at about the same time. I was requested by a prominent physician of this city to see his daughter, about twenty-five years of age, who had an ill-defined general erythematous eruption which had existed four days. The diagnosis, it was stated, was somewhat obscure. Another physician had also seen the patient, but was unable to arrive at a conclusion as to the nature of the disease. The curious feature of the case, it was remarked, was that while the eruption was apparently simple, and there were no symptoms of malaise, the cervical and post-cervical lymphatic glands were all very markedly engorged, and were somewhat painful. I subsequently found, moreover, that the post-auricular glands were also materially enlarged, the whole picture reminding one of the glandular involvement of early syphilis. The history given by the patient was that the first symptom noted was a slight stiffness of the neck, when later the glands were discovered to be affected. This occurred five days previously, and the following day the eruption appeared rather suddenly, as a faintly-marked pale-reddish, punctate, small, ill-defined macular, erythematous, diffuse rash, occupying especially the face, neck, chest and back, arms and thighs. The scalp was also invaded. There was no heat of skin or itching. There had been no malaise, fever, cough, or coryza, the patient remaining in the enjoyment of her usual good health.

I saw the case on the fourth day, when the efflorescence was somewhat paler than it had been and was already beginning to show slight desquamation, so slight, however, as to have escaped the notice of the patient. The lesions were identical in form with those of the first case. Three

days later, all trace of the eruption had disappeared, and the engorged glands of the neck had decreased markedly in size. The patient had been about and upon the street daily throughout the attack, and, apart from the affection of the skin, considered herself perfectly well. The resemblance of the eruption to measles had not, I believe, been entertained by the several physicians who had seen the patient.

A week or ten days later I was asked by Dr. C. H. Thomas to see a little boy, aged six, suffering with a slight general rash. It proved to be the same disease, the lesions of the skin being almost identical with the other cases described. The engorgement of the cervical glands was also a marked feature here. There was, moreover, in this case some malaise, and also slight suffusion of the eyes.

Dr. Thomas informed me that he had been called to see two other children in this household (where there were in all six children) about ten days before, and had found them with very slight febrile symptoms, together with a disposition to sneeze and to cough, which passed off in a few days. About the time that the children were thought to be recovered, however, a general erythematous eruption appeared. It had been undoubtedly a mild form of the disease under consideration. It subsided completely within three days.

I have since learned that ten days after the little boy whom I saw was attacked, the disease made its appearance upon the baby of the family, in the form of a profuse, very fine, punctate, erythematous eruption, without constitutional disturbance; and, moreover, that at the same time a colored servant of the house, a lad of fourteen, was also similarly attacked. In this family, therefore, five children were affected at different dates within a period of six weeks. These cases would seem to prove its contagious nature, were such proof required.

Dr. Thomas further tells me that about a month ago he attended a family in St. Alban's Place, where several children had the same disease in a mild form, and that he had heard that there had been numerous instances of it in the same street, all being of a light type,—in many cases so light that the family physician had not been called upon.

The affection has unquestionably been in our midst certainly for several months, and, latterly, in some localities in the form of an epidemic. Dr. I. Minis Hays, Physician to the Pennsylvania Institution for the Deaf and Dumb, informs me that the disease has existed extensively in this institution during the past two months. The inmates here are from ten to twenty years of age. The disease first made its appearance shortly after Christmas, beginning with the girls, and was confined to them until quite recently, when the boys began to be attacked. There have been about fifty cases of the disease, almost all being among the girls. About one-third of the girls of the institution have been affected. The disease manifested itself in the form of outbreaks, appearing every week or two, when from ten to fifteen would be attacked. These would recover, and in the course of a few days another group of cases would be reported. Its contagious nature was unquestionable. With the exception of five or six cases, Dr. Hays states, none of the patients presented constitutional symptoms, and even in the majority of these there were no marked features of systemic disturbance. When present, it consisted merely of slight suffusion of the eyes and malaise for a day or two. In one case only was there a resemblance to the general symptoms of ordinary measles.

The patients were in good general health. The eruption, indeed, constituted, in the great majority of cases, the only appreciable symptom of the disease. It was pretty uniform in character, varying but little in the many instances observed. The lesions, according to Dr. Hays, as a rule, were more macular, discrete, and defined than in the cases described by me. The average duration of the eruption was from two to three days. In one case only was there noted marked engorgement of the cervical glands, an observation which is altogether at variance with my experience. The efflorescence was without heat or itching. None of the attendants were attacked.

Dr. Hays further informs me of the interesting observation that in the spring of 1880, eight months previously, common measles prevailed in the institution, there having been at this period forty-six cases of this disease, and that about fifteen of this number had recently suffered with the present epidemic of rötheln.

Dr. James Markoe, Physician to Girard College, writes to me, in reply to an inquiry, that the disease also exists at the

present time sporadically among the inmates of this institution. In the children's asylum of the Philadelphia Hospital, on the other hand, no cases have occurred this winter. The chief nurse of this department, a competent observer who has been connected with the institution for many years, tells me that the disease has not been seen here for five or six years, when it occurred as an epidemic. She was familiar with the affection, and differentiated it from measles. It has certainly been some years, according to my recollection, since it was epidemic in Philadelphia. In private practice it would seem that some physicians have encountered it frequently during the past few months, while others, enjoying equal advantages for observation, have not met with it.

My friend Dr. D. Murray Cheston states that he has seen numerous examples of late in different parts of the city, some of them extremely mild in type, others more marked. The eruption, he adds, was, as a rule, of the same character as that described in my first case. About seventy per cent. of the cases have had common measles. Dr. J. Forsyth Meigs also informs me that he has met with numerous instances of late, and that he has always looked upon the disease as a variety of "roseola." The involvement of the cervical glands was a symptom that had not attracted his attention in the cases encountered.

Observations upon the nature of the disease, its relation to true measles, and like questions are all of interest, and it is hoped will receive attention from those whose experience has been sufficient to warrant discussion of the topic.

SPECIAL REPORT IN THE CASE OF S. OBERMEYER, COMPANY D, SIXTH U.S. INFANTRY—PARTIAL SOFTENING OF PONS, CEREBELLUM, AND CEREBRUM.

BY A. IVINS COMFORT,
Acting Assistant-Surgeon, U.S.A.

SYLVESTER OBERMEYER, musician, Company D, Sixth U.S. Infantry, aged 20 years, a native of Pennsylvania, and of German parentage, was under treatment at Fort Buford, Dakota, for headache, from April 15 to April 17, 1880. He was admitted to hospital April 21, where he remained under treatment for remittent fever until June 30. About this time a marked change was observed in his disposition: from being a man neat in his personal appearance and of stylish soldierly bearing, he became listless, inanimate, and neglectful. He now left the hospital at his own request, though unfit for duty, and travelled by boat and rail from Fort Buford, Dakota, to Rawlins, Wyoming. Thence he travelled with a wagon-train to Snake River, a distance of forty-five miles. August 5 he rode in a government wagon to White River, where he arrived August 10. September 26 he left White River with his company, at times riding in an ambulance and at times marching. October 6 he arrived at Fort Garland, Colorado. He was treated in quarters for headache from November 7 to November 12, when he was admitted to hospital, and treated chiefly by bromide of potassium and aperients until November 27, when he was returned to duty apparently somewhat relieved.

When with his company he was inclined to lie upon his bunk or sit motionless by the fire for hours at a time, and when aroused from this condition of listless quietude he became irritable and was inclined to give his comrades short answers. December 21 he was again admitted to hospital, complaining of headache. When asked to locate the seat of pain, he referred it to the back part of his head. The inane facial aspect of the patient was indicative of cerebral disease, so also his attitude and gait. Paralysis of the left motor externus and left facial nerves was so marked as to be detected by non-professional eyes. His tongue, upon protrusion, deviated to the left, and atrophy of its left half was plainly apparent. When standing, he assumed a stooping posture, with his head in a nodding attitude. His impressions were slow, and intellection obtuse. With his body bent forward and his toes inverted, he shuffled along with a rocking, toppling, straddling, staggering gait, apparently anxious at each successive step lest his unmanageable limbs should fail to support him. Paresis of the lower extremities was unmistakably present, existing in a more marked degree upon the right than upon the left side. The power of co-ordinated action, particularly of the lower extremities, was undoubtedly seriously impaired. There was no ptosis upon either side, but paresis of the left lower eyelid existed to such an extent that a perfect closure of the lids was rendered impossible. Its punctum failed to approximate the globe, and the escaped tears were constantly trickling down the cheek, producing excoriation of the part. His appetite was eager, almost gluttonous; his breath offensive, and bowels inclined to be constipated. Fluids were usually introduced into the mouth by the unaffected side, and, by care on the part of the patient, only rarely escaped by the affected angle. Great difficulty was experienced in

the utterance of certain consonant sounds, particularly the labial, and the intonations of the voice were of a slightly husky character. No difficulty in deglutition. That diplopia existed may be inferred from what has already been said; and amaurotic vision was also present. The patient frequently complained of tinnitus aurium. The function of the olfactories seemed to be of normal acuteness. The pulse on admission—apparently not a "pulsus cephalicus"—was slightly accelerated, numbering 82 per minute. Respirations numbered 22; temperature, 98⅕°. The ataxic gait of the patient suggested the existence of tabes dorsalis, or sclerosis of the posterior column of the spinal cord, though it differed from that of tabes in many particulars. The absence of the fulgurating pains and the characteristic cincture of tabes, and the presence of an occipital headache with diplopia and amaurosis, the paralysis of the abducens and portio dura nerves, the atrophy and deviation of the tongue, all precluded tabes from the diagnosis and established the existence of a lesion of the brain. Upon admission, a blister was applied to the occiput and nape of the neck, and the patient was treated with bromide of potassium, mild aperients, an easily digestible diet, and rest.

December 23.—The blister afforded an entire relief of the headache.

December 24.—Pain now was felt over each temple, to which small blisters were applied, and a two-grain solution of the sulphate of zinc was ordered for a conjunctivitis of the left eye.

December 25.—Free from headache. Urine voided about proportionate to the amount of fluids ingested. Specific gravity, 1.023. Reaction acid. The sediment proved to contain, upon microscopical examination and chemical tests, the urates.

January 1, 1881.—Psychical disturbances were now beginning to manifest themselves. The patient was restless during the entire night, disposed to get out of bed, constantly requiring to be watched, night and day, and at times quite delirious. Thirty minims of the fluid extract of ergot, with one-half drachm of the bromide of potassium, were now given every four hours. Diet chiefly beef-tea and milk.

January 4.—Delirium more subdued. Deglutition of solid food difficult. Tracheal râles, slight cough, voice aphonic, respiration hurried, 28 per minute. Pulse, 82. Temperature, 98⅖°.

Patient has been unable to walk or stand for several days, in consequence of lack of co-ordinating power. When lying upon the back, however, he can flex or extend the limbs at will. Vomiting and convulsive movements of the motor system have at no time manifested themselves. No contractures.

January 5.—Delirium entirely subsided. The pulse, though it remains at 82 per minute, is evidently failing in volume, and the extremities are inclined to be cold, for the relief of which dry heat was applied. The two points of an æsthesiometer could not be distinguished from one when separated at the distance of one inch and a quarter and applied to the integument of the cheek, breast, and lower extremity. The prehensile power of the left hand has been much greater from the time of admission than the right. Finely-pulverized sugar is not recognized as such upon either half of the tongue, either by tactile sensibility or by taste. Salt was said to have a "rough" taste upon the left side of the tongue, while upon the right side it was recognized as salt.

January 6.—Patient suffers from retention of urine, and is relieved by the use of the catheter. Pulse, 82. Dyspnœa. Temperature normal. Symptoms of increasing paresis of the inferior laryngeal nerve. Deglutition of solids now impossible. Diet, milk, egg beaten up with sherry, and beef-tea.

January 7.—7 A.M. Pulse, 82. Temperature, 97°. Respiration difficult, at times very rapid, as often as 60 per minute, or even more rapid than the pulse, then apparently suspended for some seconds. Increasing laryngeal difficulty, tracheal râles, a troublesome, hacking cough, without the power to expectorate. Great prostration. The case proved fatal at 9 P.M.

January 8.—Autopsy twelve hours after death. Rigor mortis very firmly established. Body somewhat emaciated. Calvarium scarcely of the medium thickness, readily separated from the dura mater. Longitudinal sinus and other vessels of the dura mater filled with a thin, uncoagulable black blood. General hyperæmia of the meninges of the brain. Arachnoid and pia mater free from opacities or adhesions, copious effusion into the subarachnoid space, fluid clear, free from the presence of pus or blood, or at least apparently so to macroscopic observation. A recent and apparently progressive softening at the inferior aspect of the cortical substance of the middle and posterior lobes of the cerebrum; the continuity of the parts readily crushing under slight pressure of the thumb and finger. The cerebellum was also in a condition of recent progressive gray softening. In the body of the pons Varolii was found a circumscribed locality, of about two-thirds of the size of an English walnut, in a well-marked condition of *white softening*. This locality was circumscribed by the normal tissue of the pons Varolii, and its condition, though not purulent, was of an almost pultaceous consistency. The medulla oblongata also appeared to be undergoing the process of softening. Liver, spleen, kidneys, stomach, and other abdominal viscera normal.

Diagnosis.—White softening of the pons Varolii; recent gray softening of the base

of the middle and inferior lobes of the cerebrum, also of the cerebellum; softening of the medulla oblongata.

Cause of Death.—Paresis of the pneumogastric nerve, œdema of the lungs, and carbonic acid toxæmia.

Death occurred in the systole of the heart's action. The heart normal, and free from endocarditis or pericarditis, its cavity containing a small quantity of very thin, black blood, free from coagulum. Valves normal, and free from fibrinous formations. The pleuræ, both costal and pulmonic, smooth and moist, preserving their polished appearance, and free from adhesions of either recent or remote origin. The lungs were of a dark-purple color, distended to about three-fourths of their fullest capacity, firm and inelastic to the touch, œdematous, and, when cut, free from frothy oozing. Complete splenization existed in their posterior aspect.

Whether the white softening existing in the pons Varolii—which may be regarded as the original lesion—had its origin in a hyperpyrexia occurring with the mountain fever, either an adynamic remittent, or a typhoid, for which the patient was under treatment at Fort Buford during the spring of 1880, or was the offspring of some hemorrhagic infarction due to the altitude of Fort Buford and having its existence prior to the occurrence of the fever, is exceedingly difficult, from either the autopsy or the history of the case, to determine.

The cerebellum, pons, and medulla are preserved as a contribution to the Army Medical Museum.

CASE OF SUDDEN DEATH IN DIPHTHERIA.

BY J. F. WALSH, M.D.,
Camden, N.J.

JULY 1, 1880, called to see C. M., adult; she was suffering from a palmar abscess of diphtheritic origin; considerable general debility. The abscess treated with poultices and opened July 3. July 4, general malaise, chilliness, headache, prostration, sore throat. Examination of throat revealed a diphtheritic patch on uvula; pharynx, half-arches, and soft palate very red and angry-looking; tonsils enlarged, tumid, inflamed. Treatment: milk-punch, beef-tea, etc.; tr. ferri chlor., gtt. x, potass. chlorat., gr. v, every half-hour, alternately; spray—thrown into throat by means of an atomizer—of a mixture of acid. carbol. ♏xx to liq. calcis f℥vj every half-hour. July 10 (two to three days after the first patch of exudation discovered), the whole throat was involved. Up to this date patient had been doing excellently; on this day the following conditions noted: throat devoid of exudation, returning to a healthy condition; tongue very slightly coated; pulse 60, full, but rather weak; respiration normal; slight mental confusion (but this has existed from the beginning of the sickness). Three to four hours after this last visit a messenger came in a great hurry, saying that patient had suddenly got much worse. On my arrival in the room she was dead. No violent symptoms preceded death. Husband says that she suddenly got ashy pale and stopped breathing. No post-mortem allowed.

TRANSLATIONS.

DIFFERENTIAL DIAGNOSIS BETWEEN CHANCRE AND OTHER ULCERS OF THE CERVIX UTERI.—Rasmusow, in an article of great interest both to the gynæcologist and to the general practitioner (*Vierteljahresschr. f. Derm. u. Syphilis*, vol. viii., 1880, p. 517), says that the first point is to decide whether a given sore is a chancroid or a chancre. The points of diagnosis are as follows. The chancroid presents, as a rule, a decided loss of substance, an excavation with undermined and corroded edges, surrounded by a reactive inflammatory area. The surface of the chancre, on the other hand, is usually flat, sometimes elevated, without sharply-defined borders, and rarely shows itself as a decided loss of substance. The floor of the chancroid is uneven, like its edges, corroded, and covered with a more or less abundant yellowish or fatty-looking secretion. The floor of the chancre is smooth, as if varnished, with a grayish or reddish (flesh-colored) appearance, and it exudes a scanty sero-sanguinolent or purulent fluid. The floor of the chancroid is soft and doughy, or only gives the sensation of inflammatory exudation, while the chancre is marked by a well-marked, hard, sclerosed foundation, although this may not be so perceptible in this locality

as in chancres of the external skin. A common accompaniment of the chancre is a painless enlargement of neighboring lymphatic glands, the tumors thus formed showing, in most cases, no tendency to break down into abscesses. A similar involvement is quite unusual in chancroid, occurring, according to Zeissl, only twenty times in one hundred cases. This is particularly the case in chancroids of the cervix, in which it only occurs when these ulcers are accompanied by similar sores on the external genitalia, where abscesses form, as a rule. The chancre is followed by the appearance of general secondary symptoms, while, as is known, the chancroid is a purely local affection. As to inoculation, Rasmusow has not employed this method of diagnosis, first, because in many of his cases the capability of the secretion for auto-inoculation is evident from the appearance of neighboring sores, and, secondly, because at present the fact asserted by Auspitz appears to be proved, namely, that the secretion of the chancre can itself be auto-inoculated until the period of general symptoms.

Of other affections of the cervix which may be confounded with chancre, follicular ulcers, simple abrasions or excoriations, papillary erosions, herpetic ulcers, tubercular and cancerous ulcers, may be mentioned. As to the follicular ulcers, these are small and cup-shaped, situated in the follicles, are most numerous about the external os, and are even found within the cervical canal. They do, indeed, remind one of chancroids at first glance, but they are usually no larger than the follicles from which they originate, and do not tend to spread. Early cauterization generally heals them rapidly, whereas this treatment applied to the chancroid before its surface clears is usually harmful. Follicular ulcers are usually accompanied by enlarged and inflamed follicles, and are grouped about the external os. They are also usually accompanied by catarrh of the cervix, and even of the uterine cavity. The ordinary accompaniments of this catarrh are likewise present, — hyperplasia and hypertrophy of the cervix, fluor albus, burning in the lower pelvic region, pain in the loins, etc. Chancroids of the vagina usually run a painless course, and are unaccompanied by a catarrhal condition of the cervical canal and cervix. Quite contrary to chancre, these follicular ulcers do not run a typical course; they are quite indifferent to the influence of iodoform, which is almost a specific in the venereal sores of this locality. From the initial lesion of syphilis these follicular ulcers can easily be distinguished by their lack of induration and by the absence of swollen glands.

Simple erosions resemble chancroid and chancre only in the earliest stage of the latter; the changes which take place in both varieties of venereal sores, the ulceration of the chancroid, and the induration of the chancre, with involvement of neighboring lymphatic glands, soon serve to differentiate them.

The papillary erosion is simply a further metamorphosis of the simple erosion, and is characterized by small dark-red points scattered over its surface, which are nothing more than the points of papillæ deprived of epithelium which are found in the inflammatory condition. The papillary erosion is usually found in connection with simple erosion, and is accompanied by cervical and vaginal catarrh, the lesions also being grouped around the os uteri.

The so-called herpetic ulcer may sometimes resemble the initial lesion of syphilis, particularly when it takes the form of an erosion; but the herpetic ulcer is apt to be multiple and the several lesions run together, forming a larger sore of very irregular segmented outline. In addition, there is no induration or lymphatic glandular involvement, and the little sores tend to rapid cure.

Carcinoma is usually easy to distinguish from venereal sores of the cervix. The usual crater-like excavation, the depth of the sore, with irregular, thick, hard, bossillated edges; the uneven floor, covered with a dirty-purulent and ill-smelling secretion; the frequently accompanying hypertrophy of the cervix, with immovability of the uterus itself as the growth progresses; the occasional stubborn bleeding; the pain; the microscopic examination showing a mass of epithelial detritus and connective-tissue elements in the discharge; finally, the age of the patient,— all these point to the diagnosis between venereal and carcinomatous ulcers of the cervix.

Tuberculous ulcers of the cervix are almost unknown as primary appearances, and are accompanied by signs of tuberculosis in other organs.

Foreign Bodies in the Uterus.—Dr. Hughes (*Le Concours Médical*, 1881, p. 56; from *Le Praticien*) gives the two following cases. In the first, a physician, in treating a frightful hemorrhage from the uterus, had placed and left in the organ a sponge saturated with toilet-vinegar. When the bleeding had ceased, he did not dare to remove the sponge, for fear of bringing it on again, and the os soon contracted so that it would not admit more than the extremity of the index-finger. The next day preparations were made to dilate the os, when the doctor was agreeably surprised to find the sponge lying in the vagina. In the second case the accoucheur had been obliged to introduce his hand into the uterus to detach the placenta, when a contraction of the organ squeezed it tightly. When the hand was extracted, the doctor found that a ring of considerable size which he had worn at the time was missing: it was supposed to have remained within the uterine cavity. He determined to wait a day or two, at the end of which time, introducing his hand into the patient's vagina, he found the os uteri patulous, and within it the missing ring, which was extracted. Dr. Hughes draws three conclusions from these cases: 1. Foreign bodies introduced into the uterus are not the source of serious accidents. 2. Such bodies should be immediately extracted without hesitation: if not possible to do so, it should be remembered that the uterus can often expel them spontaneously. 3. If interference is necessary, the os uteri is to be dilated for the purpose of extraction. [To these sapient conclusions let us add one more: Do not convert the post-partum womb into a "catch-all." Think how awkward to the young accoucheur to arrive at his front door at 2 A.M., after a hard night's labor, and find that he had inadvertently left his bunch of keys in his patient's uterus.—Ed.]

Bleeding from the External Auditory Passages from Erosion of the Internal Carotid.—Solkowsky (*Cbl. f. Chir.*, 1881, p. 62; from a Russian source) observed the following case. A healthy-looking soldier, 21 years of age, was admitted to the hospital suffering from a discharge from the ear, together with severe headache, chiefly on the left side, and fever. The membrana tympani was destroyed and the sense of hearing entirely lost. Injections of sulphate of zinc were employed, together with the internal use of quinine, under which the fever diminished; the headache, however, continued. On the twenty-second day of the patient's admission, severe arterial hemorrhage occurred by the external meatus, which, however, was checked by the employment of a tampon. Ergot, ice, and rest were ordered, and ligature of the carotid was suggested, which the patient, however, declined. During the following days the hemorrhage recurred daily, both by the meatus externus and by the mouth, in spite of compression of the carotid. Death supervened on the twelfth day after the first appearance of the hemorrhage. Post-mortem examination showed an erosion in the outer and under wall of the carotid three-fourths of a centimetre in length. There was no trace of the membrana tympani or of the ossicula auditus. There was some reason to suspect that this condition of the carotid was due to some injury of its coats by the injection of a concentrated acid. Solkowsky alludes to a similar case of which he had heard.

Pilocarpin in Albuminous Nephritis.—Langlet, of Rheims (*La France Médicale*, 1881, p. 150), has treated a case of the albuminuria of pregnancy successfully by jaborandi. In this case the drug acted as a diuretic, even bringing on hæmaturia. Cantieri has obtained good results in parenchymatous and interstitial nephritis. The infusion of jaborandi may be prescribed in these cases in the dose of one drachm of the leaves infused for fifteen minutes in half a pint of boiling water. As much as a drachm and a half may be used in some cases; but in infants no more than thirty grains should be given. Nitrate of pilocarpin in doses of one-sixth to three-quarters of a grain by hypodermic injection is useful in chronic kidney troubles, in serous effusions, and in œdema of the lower extremities. Muriate of pilocarpin is to be used in still smaller doses. These salts may be dissolved in distilled water or in cherry-laurel water. As pilocarpin reduces arterial tension, the existence of cardiac asthenia is a marked contra-indication to its employment, even although the arterial tension may be reduced and the cardiac contractions insufficient.

Two Unusual Tumors.—A. Bryk (*Cbl. f. Chir.*, 1880, No. 4; from *Archiv f. Klin. Chir.*) reports the case of a seamstress, aged 42, who had a multiple atheromatous

hygroma of the right buttock. The tumor was of twelve years' duration. The bursæ present in the normal condition were changed into large cysts. The larger biloc-ular cyst spread over the posterior part of the buttock and thigh and was as large as the head of a man. Two smaller pear-shaped cysts arose from the glutei. The contents of the cysts consisted of fattily degenerated epithelium, fatty detritus, and crystals of cholesterin; the brawny thickened walls were lined with pavement-epithelium. The diagnosis before operation being difficult, extirpation was practised,—a difficult procedure, and one which necessitated the division of muscular structure. The process of healing was slow, and was followed by anchylotic knee-joint when in a position of extension.

A case of petrifaction of the left mammary gland is likewise reported by Bryk, occurring in a woman of 62 years. The tumor had first been observed eleven months before the operation. It was the size of a goose-egg, hard, nodular, sensitive to the touch, and accompanied by lancinating pains. The patient died six days after the operation, of nephritis. The tumor, which had been supposed to be a scirrhus, turned out to be a hen's-egg-sized calcification of the gland, of which a less-than-bean-sized portion was found remaining. The calcification had taken place in the interglandular connective tissue.

The Absorption and Elimination of Quinine — Experiments of Professor Giulio (*Giornale di Medicina Militare*, October, 1880; from *Gazzetta degli Ospitale*, No. 17, 1880)—Conclusions.

Quinine certainly not eliminated by the saliva, nor by perspiration.

Not absorbed by the skin through friction, even under the most favorable circumstances.

Appears in the urine thirteen to fifteen minutes after a hypodermic injection of it.

Appears in the urine fifteen to seventeen minutes after administration by the mouth, digestion being good. If latter not so, a proportional delay.

Appears in urine twenty to twenty-five minutes after an entero-clysma, if injection retained for any length of time, and thirty to forty minutes after an ordinary enema, if not immediately expelled.

Resection of About Four Feet of Small Intestine—Cure.—Kœberle (*La France Médicale*, 1881, p. 128) has resected the intestine in four cases of cancer of the rectum. In each case there was cure without relapse. The last case, however, is too recent to state the result with certainty. Kœberle has also performed this resection in cases of foreign bodies in the intestine. The case of most interest among those given by Kœberle was that of a girl of 22, who had been suffering for some months with attacks of internal strangulation. Kœberle had recourse to gastrotomy. The loops of small intestine which showed in the wound were distended and congested. There was a cicatrix above and below which the intestine was distended. Resection of a metre and a half—about four feet—of the intestine was attended by complete success, and the patient was cured in about a month.

Convulsions in Carbolic Acid Poisoning.—Treub (*Cbl. f. Chir.*, 1881, No. 4) alludes to the fact that while animals poisoned with carbolic acid always display clonic convulsion as one of the most prominent symptoms, in man this effect is but rarely brought about. He can find only twelve cases recorded. In five of these the carbolic acid acted on the intestinal tract; in four, serous or articular surfaces absorbed the poison; and in three, poisoning took place through the application of the acid to wounded surfaces. (The references are given.) Treub goes on to give a case coming under his personal notice, where a man who had been operated upon for empyema under antiseptic precautions, and whose wound was dressed with carbolic acid dressings, was seized with convulsions, which diminished when this was changed for salicylic acid dressings.

Daily Amount of Epidermis Shed.—E. Salkowsky (*Virchow's Archiv; Cbl. f. Chir.*, 1880, p. 741) says that Moleschott has reckoned the daily loss from the skin of an adult at 14,353 grains (?), of which 2099 (?) is nitrogen, or 4497 grains urea (about one-seventh the entire excretion of urea). Salkowsky is convinced that these figures are probably about fifty times too high. If they were correct, every evening when the clothes were removed clouds of epidermis would fall. Such a considerable desquamation would be inexplicable, even in connection with the absorption of a similar weight of nitrogen. Against this view, also, experiments on dogs militate.

EUCALYPTUS OIL AS AN ANTISEPTIC.—Dr. Bassini, of Parma (*Cbl. f. Chir.*, 1881, p. 68; from *Annal. Univ. di Med. e Chir.*), has followed Schultz in experimenting with the oil of eucalyptus as an antiseptic. He employed for the spray an emulsion, prepared with the aid of carbonate of magnesium, of one and a quarter parts of the oil in one thousand parts of distilled water. The emulsion was tolerably constant. The gauze used was first made, like Schultz's, of fifty per cent.; later, of ten per cent. and five per cent. In addition, Bassini disinfected the locality of the operation with eight-per-cent. solution of chloride of zinc.

As the result of his investigations on animals and man, Bassini concludes (1) that even with ten-per-cent. gauze the smell of the wound is very disagreeable to the patient; (2) considerable infiltration takes place in the neighborhood of the wound, resulting in the formation of pus (this is in opposition to Binz's experience, according to which eucalyptus oil hindered diapedesis); (3) septic decomposition easily occurs (this was not the fault of the *technik*, for Lister's dressing under the same circumstances prevented decomposition); (4) ulceration of the edges of the wound followed the unsatisfactory antisepsis and the inflammatory exudation; (5) eczema occurred so invariably that it could not be attributed to the paraffin and wax in the dressings, but to the oil only.

These facts lead Bassini to the conclusion that, while oil of eucalyptus is analogous to carbolic acid in antiseptic influence, it cannot be regarded as harmless in its effect, and, on the whole, is decidedly inferior to the latter for practical use.

NERVE-STRETCHING IN EPILEPSY.—*Le Progrès Médical* for February 5 contains a further communication upon this interesting method of treatment. In addition to the cases of locomotor ataxia and sciatica treated successfully by this method (see *Medical Times*, January 15 and January 29), three cases have recently been operated on by this method in the Hôpital Bicêtre at Paris. The one reported by *Le Progrès Médical* concerned a woman suffering with congenital epilepsy, in whom elongation of the median and ulnar nerves was practised by Dr. Gilette in the upper third of the arm on December 31, 1880. Although the brief period which has passed since the operation does not permit a definite conclusion to be drawn, it may certainly be asserted that a decided change for the better has been wrought in the patient's condition. The attacks, which numbered ninety a month, have been already reduced to eighteen during the month of January. They are also less severe. The after-effects of the operation itself were next to nothing; the wound united by first intention, and the slight discomfort in the arm experienced by the patient disappeared after the first week.

QUEBRACHO IN DYSPNŒA.—Penzolt's results (published in this journal from the *Berliner Klinische Wochenschrift* about a year ago) have been confirmed recently by Berthold, who has used this remedy in five cases of intense dyspnœa. In one case of very severe convulsive asthma rapid relief was obtained by the administration of the tincture in teaspoonful doses given three or four times within an hour. In a case of emphysema with bronchial catarrh, the same preparation given for twenty-four hours brought the respirations from forty-eight to thirty-two per minute. In a case of pleurisy it failed. The fluid extract has been found useful in diarrhœa.

RESORCINE A DERIVATIVE OF ASSAFŒTIDA.—Dr. Dujardin-Beaumetz has recently experimented with resorcine, a crystallized body, white, odorless, soluble in all proportions. It prevents fermentation in all albuminous substances,—milk, urine, etc. The Germans have used it chiefly for wound-dressings, its action being similar to that of carbolic and salicylic acid. It may be employed in all kinds of ulcerations as a topical remedy, and as a gargle in diphtheria. It is poisonous in large doses. The remedy, in fact, is a substitute for carbolic acid, having all of its properties without the disagreeable odor.

SUBCUTANEOUS INJECTIONS OF NITRATE OF PILOCARPIN IN FETID SWEATING OF THE FEET.—Armaingaud (*La France Méd.*, 1881, p. 128) concludes as follows from his experience in four cases. Hypodermic injections of nitrate of pilocarpin appear to have a curative effect in fetid perspiration of the feet. This effect is without inconvenience to the system generally. Longer observation is required to determine if this curative action is permanent or temporary. Pilocarpin acts by a substitutive derivation on the salivary glands. Pilocarpin cannot be replaced in these cases by jaborandi with the same good effect.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, MARCH 26, 1881.

EDITORIAL.

DR. OTIS.

THE medical profession, as well as the medical corps of the army, has sustained an irreparable loss in the death of Dr. George A. Otis, Surgeon and Brevet Lieutenant-Colonel, United States Army, which occurred at Washington on the 23d of February last. From the memorandum issued by the Surgeon-General we learn that Dr. Otis was born at Boston, November 12, 1830; graduated with the degrees of A.B. and A.M. from Princeton College; entered the medical department of the University of Pennsylvania, and received his degree of M.D. from that institution in 1850; visited Europe, and prosecuted his studies in London and Paris, and, returning to this country, established himself at Springfield, Massachusetts. He was appointed Surgeon, Twenty-Seventh Massachusetts Volunteers, September, 1861, and held this position until appointed Surgeon, United States Volunteers, August 30, 1864. After the close of the war he entered the Medical Corps, United States Army, as Assistant-Surgeon, February 28, 1866, became Captain and Assistant-Surgeon, July 28, 1866, Major and Surgeon, March 17, 1880, having received the four brevets of Lieutenant-Colonel of Volunteers, Captain, Major, and Lieutenant-Colonel, United States Army, for meritorious services during the war. While Surgeon of the Twenty-Seventh Massachusetts Volunteers, he served in Virginia, North Carolina, and South Carolina, and was on special duty in charge of the hospital steamer "Cosmopolitan," in the Department of the South. Assigned to duty in the Surgeon-General's Office, July 22, 1864, he was Curator of the Army Medical Museum, and in charge of the Division of Surgical Records, until his death.

He was well known to all medical men as the author of the splendid series of "Reports on Military Surgery" issued from the Surgeon-General's Office since the war, and as the compiler of the surgical volumes of the "Medical and Surgical History of the War."

With unusual culture, the result not only of study, but also of extensive travel abroad, he brought to the preparation of these reports an amount of information, a persistence in research, and a trained common sense in summing up his data, which, joined to an unusually clear and agreeable style, made his work a model for all writers on military surgery.

To him also are due, to a great extent, the development and arrangement of the surgical sections of the Army Medical Museum, which are the most valuable of their kind in the world. Personally, he was one of the most agreeable of companions and the staunchest of friends. His death, though sudden, was by no means unexpected, for he received his sufficient warning three years ago. He left the third and last surgical volume of his History about half completed; and we venture to predict that no one will feel his loss more keenly than the officer, whoever he may be, to whom will be assigned the duty of carrying on and completing his work.

THE withdrawal of the trustees and faculty of Bellevue Medical College from the advanced position which was taken by them last year has been almost as surprising as was the original assumption of such place. It would have been much better for the cause of medical education, and no less useful to the parties immediately concerned, if the first change had not been made. A reformer who assumes

a position because it is right, and withdraws because it does not pay, does not, by such action, enhance either his reputation or his influence. A man ought to count the cost of war before he enters upon it; and he who runs away at the first reverse deserves the reputation of lack of judgment as well as of cowardice. The hands of minorities in many colleges struggling with majorities will be greatly weakened by the foolish haste of Bellevue; but the ultimate triumph of reform, though it may be delayed, is still assured.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

AT an adjourned conversational meeting of the Society, held at the Hall of the College of Physicians, Philadelphia, December 15, 1880, Dr. Albert H. Smith, President, in the Chair, Dr. John M. Keating read a paper entitled "Weak Spines in Young Girls, and their Treatment" (page 324).

DISCUSSION.

Dr. Benjamin Lee said that the prospects for the permanence of a nation depended very much upon the health of its girls. No people can hope to continue prosperous while the mothers are subjects of chronic ill health. American women have been looked upon as the type of invalid women. The proper place to look for the correction of these physical evils is the school-room, and especially the manner of sitting. As a rule, every facility seems to be offered to the production of curvature of the back as far as possible, because the desks are placed so that the student must bend over the desk. On the contrary, the book should be elevated so as to be opposite the eye, and the seat should have a comfortable back, strongly convex, fully supporting the spine.

Undoubtedly the emotional type of the nervous system of many young girls may be a factor in producing this relaxed condition of the muscles which forms spinal curvature. The overstimulated brain from ill-regulated studies and exciting food is only able to do an inferior quality and amount of work. The results of food which is indigestible and too stimulating are faulty nutrition and unhealthy development of the emotional and sexual nature. An important point, referred to in the paper as an accompaniment of weak spines, congestion of the ovaries, stands more in the relation of a cause. He had always noticed this slight convexity of the spine in young girls at the time of puberty, and, as a rule, there is coexisting engorgement of the ovaries, as a result of which there is reflex irritation, and more or less effect upon the spinal muscles, not simply debility, but often contraction, usually in the lumbar region. This is the seat also of pain in the great majority of young girls. When the high shoulder is first noticed, the disorder in the lumbar region has preceded it.

As regards treatment by electricity, he could only say that he had been so well pleased with massage and systematic exercise of the affected muscles that he had not been obliged to resort to electricity, and could not therefore give an opinion. The best results can be obtained with massage and proper exercise, if taken in time, before the bones have become seriously altered in their shape or mutual relations.

Dr. Schapringer said that reference had been made to the use of electricity in eye-practice. In his opinion the muscles are not at fault in the cases mentioned, but the dioptric media: the muscles have as much power as in the normal eye. No amount of muscular stimulation would correct errors of refraction and astigmatism.

Dr. W. H. Little observed that in some forms of asthenopia electricity might prove serviceable. In a similar way he had employed it in order to exercise and strengthen the muscles of the tympanum.

Dr. W. R. D. Blackwood spoke in favor of the treatment of muscular debility by faradic electricity. He recommended to faradize only the affected muscles, and to apply the continuous galvanic current along the spine, for its soothing effect. It is better used in the evening, and he had been in the habit of allowing the patient's mother to apply it, after instructing her in regard to mode and duration of the application. This treatment had been found to be very valuable in ovarian congestion, as it favored the establishment of menstruation.

He had also employed electricity in eye and ear disorders, and in selected cases great benefit undoubtedly results from its proper application.

Dr. A. H. Smith said that he had recently had a very interesting opportunity of learning of the effect of systematic exercise upon young girls. He, in company with some friends, had paid a visit to the Girls' Normal School, where he saw thirteen hundred girls collected, who showed remarkable evidence of the value of physical training in their appearance of vigor and robust health. Considering the circumstances and conditions in life of the parents of many of the girls, he was struck by their looks of good health. This was soon afterwards explained by a subsequent visit to the room where the calisthenic exercises are taught. Every girl is obliged to spend an hour in such exercises each morning. Mr. Fetter, the principal of the school, had in-

formed him that prior to the introduction of these exercises it was very common for the students to break down before examination-time, but since their adoption there had been marked improvement in the health of the girls. Anything that can be done to improve the health of the future mothers is of incalculable importance.

Dr. W. R. D. Blackwood said that he was especially interested in the symmetrical development of the body. He found that his little girl was using the right hand exclusively, and he took the trouble to teach her to use the left equally as much. It required only two months to teach her to use the left hand with as much facility as the right. She uses them now perfectly indifferently, and writes as well with one as the other. He also makes her occasionally take her knife and use it in the left hand at the table, alternating with the right. He believes that children can be taught to be ambidextrous, if pains are taken to counteract at home the teaching at the school, where the right hand is given the preference. This practice is very useful for a surgeon, and he had accustomed himself to use his knife in dissecting in the left hand, and now uses the bistoury or saw in whichever hand is more convenient for operating.

Dr. Henry Leffmann confirmed the remarks about the position taken in the school-room, and had noticed it in boys as well as in girls. While the majority assume the usual position, there are some who display much ingenuity in contorting themselves into curious abnormal positions.

Dr. Wm. S. Stewart thought that the weakness of the spinal muscles was largely attributable to the mode of dress: the waist is enclosed in a tight-fitting corset and made as small as possible. He believed that if physicians would warn their patients against this abuse of dress there would be less of ovarian congestion and spinal weakness.

Dr. J. M. Keating, in closing the debate, said that he had been so much interested in this subject of weak spines by observing its effects in young girls, more especially in dispensary practice, that he had considered it of sufficient importance to bring it to the attention of this Society. Since this condition in young girls is commonly associated with so much anæmia and menstrual disorders as often to prevent them from reaching womanhood, it is important to take some steps to cure this evil at its beginning. The example offered at the Normal School of this city in this subject of calisthenic exercises for the students is not followed as much as it should be.

In regard to the mechanism of curvature of the spine, he considered it an important point that the weaker side yielded to the stronger, and the local treatment to restore muscular strength should be directed mainly to the convex.

In regard to his reference to electricity in the paper, he was afraid that he had been misunderstood. Without discussing the question at all, he had wished merely to express the opinion that the battery is a most powerful means of aiding muscular development, when applied properly to the muscle: the reference to the eye and ear had been made in passing only to point out the application of electricity to the small muscles of the body.

The subject under discussion, regarding the causes and treatment of weak spines in young girls, he considered as very important, being closely connected with those forming the basis of most of the chronic affections of after-life, and he insisted particularly upon instituting early treatment.

On motion, a vote of thanks was tendered the lecturer for this interesting paper.

SPECIMEN OF DEGENERATION OF PLACENTA.

Dr. Frank Woodbury presented a portion of a diseased placenta for Dr. R. Bunting, of Roxborough. The patient had had seven still-born children, having been delivered of two living children previously. The general history in the last seven pregnancies was that she felt motion at the usual time, but at the fifth or sixth month it ceased. She would carry the fœtus until the eighth month. The placenta, as in the present specimen, was hypertrophied, heavy, and seemed like a mass of fat. The child was in the present instance macerated, and had evidently been dead for several weeks, although delivered a month before the full time.

On motion, the specimen was referred to the Committee on Microscopy.

INSTRUMENT FOR MEASURING THE VAGINA.

Dr. J. M. Keating presented an instrument for ascertaining the capacity of the upper portion of the vagina in order to determine the proper-sized pessary. The instrument, made by Gemrig, was merely a medium-sized Hodge pessary divided in the middle transversely, and placed upon long scissor-blades, which admit of separation after introduction into the vagina, the degree of separation being marked on a scale on the handles.

Dr. A. H. Smith thought that an instrument that would accomplish what Dr. Keating had in view would be desirable.

Dr. Schapringer suggested that the blades should be separate and introduced consecutively.

Dr. Bernardy did not think the instrument necessary. The proper-sized pessary can be estimated by an experienced practitioner, and if the first one inserted is not a good fit he would scarcely fail with the second. He did not believe in multiplying instruments unnecessarily. The less instrumental interference is resorted to, the better it will be for physician and patient.

In reply to a question, the President said that in ordinary cases he preferred a modifi-

cation of the Hodge pessary. In anteversion, however, he uses the double lever pessary of Thomas.

FOREIGN SUBSTANCE IN FECAL DISCHARGES.

Dr. A. Schapringer exhibited some peculiar material passed by a child ten years old and found in the stools. When first seen, they were like the pits or part of the pulp of an orange, and were evidently of vegetable nature. He recalled the fact that during the Franco-Prussian war a woman had passed similar substances, which were ascertained by Virchow to be orange-pulp.

IMPROVED HYPODERMIC SYRINGE, WITH REMARKS ON PELLETS FOR HYPODERMIC USE.

Dr. R. S. Huidekoper exhibited an improvement of the hypodermic syringe, having a small chamber at its upper extremity, capable of containing eight or ten pellets of morphia (gr. $\frac{1}{8}$ to gr. $\frac{1}{4}$ each). The entire apparatus was compact, and easily carried in the vest-pocket.

Dr. H. A. Wilson approved the plan proposed, and exhibited his small case containing a hypodermic syringe, and several glass tubes, with a diaphragm in the middle of each so as to enable them to hold a different variety of pellets in each end. He referred again to the advantages of the pellets over the ordinary solutions, especially Magendie's solution, which now is very seldom used, and requested the President to state his opinion.

Dr. Albert H. Smith said that he had not had much experience with the pellets for hypodermic use, but that it appeared to him that it would be impossible to secure as accurate dosage by this means as in the form of solution. In gynæcological surgery he uses the mixed anæsthesia, as recommended by Nussbaum, Bernard, and, more lately, by Dr. Reeve, of Dayton, giving a hypodermic injection of morphia (gr. $\frac{1}{4}$), previously to administering the ether, as by this method the stage of excitement is bridged over and less of the anæsthetic is required. In a recent case for some gynæcological operation he had used one of these quarter-grain pellets, as recommended by Dr. Wilson, instead of the usual Magendie's solution. After the completion of the operation, and etherization had been concluded, he was surprised to find that the patient did not recover consciousness, but, on the contrary, seemed sinking into coma. Respiration fell to four or six in the minute, the pulse was thready and slow, the pupils almost invisible: she had, indeed, every symptom of extreme morphia-poisoning, from which she was only recovered with great difficulty. He could only ascribe the results to an overdose of morphia, as the patient had been etherized before without any such manifestation. The accident suggested some inaccuracy in the subdivision of the morphia in the pellets. He had always used Magendie's solution of morphia, which allowed very little danger of mistake; but the preparation of the pellets requires very careful manipulation to avoid error.

In reply to a question, he stated further that the operation had lasted about an hour and five minutes. He could not remember the amount of ether used, but it was not excessive. It required prolonged efforts at resuscitation, with artificial respiration, injections of coffee, and warmth and friction to the extremities. He was not aware that the patient was particularly susceptible to morphia.

Dr. H. A. Wilson said that the sample used by the President probably belonged to the first that were made. The pellets are manufactured by Dr. Wolff with extreme care; the muriate of morphia is first weighed out in quantities of two to four grains, into which the proper proportion of atropia in solution is placed, and thoroughly mixed; the powder is then dried, and weighed out into quarter-grain or smaller powders, the sodium chloride added, and the whole compressed. By pursuing this careful manipulation error seems to be impossible. He believed that if one of these later pellets was used, the accident in the case mentioned must be referred to idiosyncrasy or other circumstances. He recalled a case in which he had given one-twelfth of a grain hypodermically and produced all the symptoms of severe morphia-poisoning. He condemned the ordinary solutions of morphia, on account of the rapid development of a fungus, which destroys the alkaloid, so that after it has been kept some time it becomes worthless.

Dr. F. Woodbury said that he had not tried the pellets, but they appeared to present a convenient form for use, and had some advantages. As regards stability, however, it still remains to be proved that these pellets are more permanent than the solutions which they are intended to supplant: they are certainly deliquescent to some extent, on account of the sodium chloride, which has great affinity for water; nor is it to be forgotten that under such circumstances the alkaloid might become exposed to the action of nascent chlorine, and thus undergo destruction like ordinary organic matter. Whether they are permanent or not in fact is to be determined by experience rather than by theory.

The speaker could not agree with Dr. Wilson that there was such universal dissatisfaction with the form of solution for the administration of alkaloids. When fractional doses are to be administered, it is a physical fact that cannot be gainsaid, that the solution affords the only absolutely accurate method of subdividing the medicament, and for this purpose the form of solution will probably always be retained. It is not improbable, however, that the convenience of the pellets may also give them a certain range of application, the two forms coexisting, each being

useful within its own limits: the question to be decided by experience is under what circumstances to use the solution, and under what other circumstances to prefer the form of pellets. He had also some doubt as to whether morphia solutions deteriorated so much by the development of the fungus *penicillium glaucum*. His observation had led him to believe that these alkaloid solutions really get stronger by keeping, from evaporation of the water; and the development of the parasite, even if at the expense of the alkaloid, thus only serves to keep the solution at a proper strength. He could say very positively that he had used such a solution which had been kept more than a year, and found it active in the usual dose.

Dr. Bernardy understood a former speaker to say that Magendie's solution is now very seldom used, which is opposed to the facts: indeed, in some parts of the country the officinal solution is not kept on hand by the apothecaries at all. While at a watering-place on Long Island last year, he had prescribed for a lady a drachm of solution of morphia, and the druggist put up Magendie's solution: he was told subsequently that this solution (gr. 16) was the only one kept by druggists on Long Island. In regard to its deterioration upon keeping, he doubted the fact. Having an attack of lumbago one night, and finding his ordinary powders had run out, he remembered a small bottle of solution of morphia, which had not been disturbed for at least eighteen months; it had been cloudy with fungus, which had settled to the bottom. He used this old solution hypodermically in ordinary dose, and found it physiologically active. He agreed with the last speaker that the small doses are more accurately divided when the drug is in the form of solution.

MODIFIED VOLSELLA FOR TONSILLOTOMY.

Dr. A. Schapringer exhibited a volsella forceps, with the prongs bent at an angle of forty-five degrees with the handles, for use in tonsillotomy. This instrument is much cheaper than the guillotine tonsillitome, and is easier to clean; the position of the prongs also enables the operator to take hold of the tonsils better than with the ordinary volsella which is commonly used.

Dr. John G. Packard did not know that any one in this country or any other country used any instrument but Physick's guillotine for the operation in question.

Dr. H. A. Wilson said that the instrument was very little different from those in use. Prof. Gross uses the volsella, and prefers it to the guillotine, especially where the gland is much hypertrophied.

Dr. Schapringer said that the modification was very slight. Its advantages, however, were so obvious that he had been surprised that it had not occurred to some one else. The instrument exhibited he had had made for his own use in 1863.

REPORT OF THE "COMMITTEE ON HYGIENE AND THE RELATIONS OF THE PROFESSION TO THE PUBLIC"—"ON THE RESPECTIVE DUTIES OF THE DRUGGIST AND PHYSICIAN."

Made to the Philadelphia County Medical Society, January 12, 1881.

"THE Committee on Hygiene and the Relations of the Profession to the Public" respectfully report as follows:

Dr. Geo. B. H. Swayze, having recently read before this Society a paper in which was discussed the injury done to physicians by certain practices of druggists to whom had been intrusted the dispensing of the prescriptions of medical men, the statements contained in his paper and the opinions elicited in its discussion led to the presentation before the Society of several resolutions designed to remedy the evils complained of. As these resolutions, with the consideration of the whole subject as discussed, were referred to the "Committee on Hygiene and the Relations of the Profession to the Public," they accordingly met for deliberation. At this meeting a report of the recent meetings of the Medico-Legal Society of this city, in which the same subject had been discussed, and also the comments of the *American Journal of Pharmacy*, Chicago *Pharmacist*, and *Pharmaceutical Journal* of London, November 23, on this subject, were fully presented. From these sources, with the paper of Dr. Swayze, the resolutions of the Society referred to your committee, and the personal evidence of members who were before the committee, it appeared that there were three special grievances laid at the door of the pharmacists:

First. That prescriptions sent to the shop of the druggist were renewed indefinitely, though the intention of the physician was that they should be filled but once.

Second. That druggists invaded the domain of the physician, by themselves prescribing for the sick instead of awaiting the prescription of the physician.

Third. That druggists were active agents in disseminating proprietary medicines and nostrums.

It seemed wise to your committee to bring these grievances formally to the notice of the Philadelphia College of Pharmacy, as a representative of the interests of pharmacy, and to ask a conference with that organization with a view to such a mutual understanding between representative physicians and druggists as might dissipate all difficulties. In reply to this request of your committee, the trustees of the Philadelphia College of Pharmacy appointed a committee to confer with your committee. (A copy of the minutes of this conference, at which Messrs. Remington, Taylor, Shinn, and Bullock represented the Philadelphia College of Pharmacy, is appended to this report, and to this is added a letter from Mr. Blair covering the whole subject.) As an

outcome of the discussion, the druggists claiming that they were placed in a false position by the silence of the physician, he not specifically stating that his prescription was to be filled but once, the following resolution was adopted by the committee of conference, and its substance is presented for acceptance to the Society:

"*Resolved*, That it is the sense of this 'Committee of Conference,' in order as far as possible to prevent the repetition of abuses that have arisen from the unauthorized renewals of prescriptions, that physicians be requested to write the words 'not to be renewed,' or words or symbols to the same effect, on prescriptions which they do not wish to be renewed without special orders; at the same time instructing patients in regard to the evils likely to arise from such renewals, and informing them of their wishes."

With reference to the prescribing by druggists, Mr. Taylor, on the part of the pharmacists, read the following from the Code of Ethics of the Philadelphia College of Pharmacy:

" . . . As the diagnosis and treatment of disease belongs to the province of a distinct profession, and as a pharmaceutical education does not qualify the graduate for those responsible offices, we should, where it is practicable, refer applicants for medical aid to a regular physician."

As this injunction of the pharmaceutical ethics, if carried out, would meet the question of prescribing by druggists, it was adopted as expressing the sense of the committee in the premises.

In reference to the sale of proprietary medicines, Mr. Taylor, on the part of the pharmacists, read the following from the Code of Ethics of the College of Pharmacy:

"Whilst the College does not at present feel authorized to require its members to abandon the sale of secret or quack medicines, they earnestly recommend the propriety of discouraging their employment when called upon for an opinion as to their merits."

This also was adopted as the sense of the committee of conference, and it is suggested that the Philadelphia County Medical Society approve the expression of the sentiments contained in the extract cited.

The conclusion which your committee has drawn from the above conference is that the interests of the medical profession are safe in the hands of reputable pharmacists, or such as govern themselves according to the excellent Code of Ethics of the Philadelphia College of Pharmacy. But it seemed equally true to your committee that, among the thousands who keep drug-stores and dispense medicines in Philadelphia, there are many who are guilty of some one or all of the offences charged against druggists: so that your committee offer the following resolutions:

"*Resolved*, That, in the opinion of the Philadelphia County Medical Society, a druggist acts simply as the *agent* of a physician in compounding his prescriptions, and that it is a breach of his proper obligations to the physician, to renew, without his direction, or furnish copies of, any formula prescribed.

"*Resolved*, That the members of this Society will note which druggists commit such breaches of obligations, and dissuade their patients from taking prescriptions to them to be compounded.

"*Resolved*, That the members of this Society will endeavor to have their prescriptions compounded by apothecaries who do not exhibit signs or circulars, or otherwise encourage the use by the public, of patented or proprietary medicines."

Inasmuch as it appeared that many physicians themselves prescribed patented and proprietary articles, it was further

"*Resolved*, That it be recommended to this Society to reaffirm the sentiments expressed in Section 3, Article I., of the By-laws of the Philadelphia County Medical Society,—viz., 'that any physician who shall enter into an agreement with an apothecary to receive pecuniary compensation or patronage for sending prescriptions to said apothecary, or who prescribes a remedy without knowing its composition, or who shall hereafter give a certificate in favor of a patent remedy or instrument, shall be disqualified from becoming or remaining a member of this Society.'

"*Resolved*, That this Society transmit to the trustees of the Philadelphia College of Pharmacy a copy of this By-law; also their approval of the sentiments contained in the articles of the Pharmaceutical Code of Ethics, above quoted."

Finally, your committee offer the following resolutions for the acceptance of the Society:

"*Resolved*, That the report of the committee be printed in full in the 'Transactions of the Philadelphia County Medical Society,' with the action of the Society, and that their publication be asked for, also, in the *American Journal of Pharmacy* and in the *Druggists' Circular*.

"*Resolved*, That the committee be discharged from the further consideration of the subject."

It was also

"*Resolved*, That the trustees of the Philadelphia College of Pharmacy be requested to furnish each of their graduates with a copy of the Pharmaceutical Code of Ethics."

It was also

"*Resolved*, as the sense of this Society, that there is nothing in Ethics to forbid a physician dispensing his own medicines."

By order of the committee.

RICHARD A. CLEEMANN,
Chairman of the Committee on Hygiene, etc.,
Philadelphia County Medical Society.

REVIEWS AND BOOK NOTICES.

FEVER. A STUDY IN MORBID AND NORMAL PHYSIOLOGY. By H. C. WOOD, A.M., M.D. Philadelphia, J. B. Lippincott & Co.,* 1881.

The growth of physiological research in America has been so slow that the appearance of a paper as ambitious as the one under review is an exceptional matter. We have at Harvard and at Johns Hopkins well-fitted, and in the latter place well-endowed, laboratories, but, so far, the most notable researches, and probably the most numerous as well as important, have come from men altogether without the advantages of good laboratories and the backing of plentiful means. The present essay is only one more illustration of the superior value of individual energy.

Dr. Wood had already written authoritative papers on thermal fever and the causes of fevers, and was thus led by degrees to make the vast and difficult study which now adds another valuable treatise to the many for which we are indebted to the liberal views of the managers of Smithson's foundation.

It is now several years since three men devoted themselves to the research which this volume chronicles. Two of them are dead, —Dr. Hare and Dr. Lautenbach,—and both have left behind them enough of good work to show how fair a future was lost to them. The labor thus begun has fallen for its completion altogether upon Professor Wood.

The essay is in four chapters. The essential symptom of fever is discussed in the first, and decided to be elevation of temperature: so that a natural history of fever can be had by causing it artificially through any means which gives rise to absolute increase in the animal heat. These experiments are part of Dr. Wood's essay identifying sunstroke as a thermal fever due purely to elevation of bodily temperature. The proofs of this and of the value of the use of cold as a remedy are strikingly re-stated and re-supported. Next arise for answer two questions,—What is the mechanism by which the production and dissipation of animal heat are regulated in the animal organism? Is the rise of temperature in fever due to the excessive retention or to the abnormal production of heat, or to these conjointly? And to answer these queries two long chapters are devoted.

Nothing but a careful and elaborate analysis of the hypotheses formed, of the experiments which test them, and of the conclusions reached, would do justice to this elaborate study. Save from a few of the higher students of physiology, it is unlikely that this portion of Dr. Wood's work will secure the careful attention it deserves. The only true and valuable criticism of a research so profound is to be looked for from such future experimental examinations as shall, in the hands of observers of equal force, determine the correctness of Dr. Wood's work.

In this necessarily too brief notice of what needs and deserves a full and careful review, it is, of course, impossible to describe in even a condensed form the groups of experiments, the minor inferences, the logical outcomes, and the testing of the value of one experiment or of sets of such acquired facts by others. It will, perhaps, suffice to say that, criticised from the stand-point of an old laboratory-working physiologist, the quality of Dr. Wood's work seems to me of rare excellence, and I can only regret that neither my own time nor the space here given me enables me so to analyze it as to make clear to others the strong grounds for my opinion.

On page 254 Dr. Wood states the attained facts of his own and of others' getting which enable him to state as a final conclusion what he now rests on as the theory of fever.

The facts so given will bear at least analytic statement. Their importance in relation to health, to fever states, to the therapeutics of disease and wounds, is simply enormous.

1. There is a normal range of temperature, and any disturbing causes which carry it outside of its usual limits constitute, in greater or less degree, ill health. The minimum is at 7 A.M., the maximum at 9 P.M. Fever follows a like law. The causes of these timed variations in normal and disease phenomena must have some relation to the external laws of nature, since the most profound perturbing influences —such as starvation—do not change them. One would like to know whether reversing natural habits, as by working at night and sleeping in the day, would have any influence on these phenomena. The subject is tempting enough. Why should 9 P.M. be the time of maximum body-heat? and is it so in all climates?

2. The nervous system controls the normal heat and the normal limits of heat, and *within certain* limits controls both the making and the dissipation of animal heat. The vaso-motor nerves, inclusive of the secretion nerves, chiefly control heat-loss in man: *i.e.*, by contracting the capillaries of the skin and lessening secretions, they reduce heat-loss, or, by reverse processes, increase it.

Outside of this governing and modifying influence, Dr. Wood believes in an inhibitory heat-centre which acts through spinal centres, but may be—and this seems still in doubt—a muscular vaso-motor centre, not purely endowed with power to control, irrespective of muscular action and muscle-nutrition, the extra-muscular sources of heat. Dr. Wood's experiments as to the place of heat-centres are perhaps the most interesting in his book. He thinks they may probably be referred to the pons, and are not in the cortex cerebri.

Fever he describes as a nutritive disturbance, with an elevation of temperature, and with increased chemical action in accumulated

* Reprinted, by permission, from the stereotype plates of the Smithsonian Institute.

tissue-matter of the body. As little food is taken or absorbed, this increase of heat is sometimes enough, sometimes not enough, to compensate for the loss of heat which usually is derived from the destruction of the surplus food in the body.

The fever-rise in temperature cannot, therefore, depend solely on increased heat-product, since in fever less heat is sometimes produced than at other times when the temperature is normal. Also, great heat-product at cost of the accumulated material of the body may occur without elevation of the thermometer. In fever vaso-motor palsy causes a fall of temperature similar to but greater than that produced by a like disturbance in health. Section of the cord also causes greater lessening of heat-product than in health. The so-called inhibition centre seems to be feeble in fever, but not paralyzed.

In all or nearly all serious fever Dr. Wood thinks there is a definite poison circulating in the blood. If, he says, we believe this to be so, our creed would be: fever is due to a poison, formed within or gotten from without, acting as a depressant on such nerve-centres as regulate production and dissipation of heat. The poison, or possibly a peripheral irritation, partially palsies the inhibitory centre,—so that, the brake being off, the machine goes at speed; or, more plainly, tissue-changes increase, more heat, of course, results, and the secretions abound in the melted and dissolved wrecks of fast-disintegrating tissues. Usually, as Dr. Wood believes, the normal rises in temperature act on the vaso-motor centres so as to produce through them automatic changes in the vessels which give rise to increased dissipation of heat; but in fever these centres, like all others, we presume, fail of their function, so that, until the temperature rises enough to become potent as a stimulus to paretic nerve-cells, there is a failure in the mechanism for dispersing or dissipating heat.

This theoretic conclusion covers most of the facts, and seems to be reasonable enough, and fairly made out on the authority of the facts and experiments related.

The local fever which in a limb follows nerve-section still remains without the thorough examination it needs. We cut nerves, the limb becomes hot, and so remains for days; its temperature may even rise six or seven degrees. What changes occur in the limited tissues so warmed? How do muscle and bone differ from those of the other side when such heat-product has been long kept up? Why, finally, does the heat fall below the normal? None of the nerve-section experiments have included division of the vaso-motor filaments which run with the vessels, and which could be interrupted by tight temporary ligatures of the vessels. Nor do we know whether galvanization of the peripheral trunk of a cut nerve will reduce the local fever. It would seem as though this might be a simpler method of studying at least some of the conditions of fever.

Prof. Wood is to be congratulated on the completion of a very remarkable labor, and the University of Pennsylvania upon such a product of its unendowed and ill-furnished laboratory of physiology.

S. Weir Mitchell.

GLEANINGS FROM EXCHANGES.

Headaches dependent on Disease of the Dura Mater.—Dr. J. S. Jewell, in an article on the nature and treatment of headaches (*Journal of Nervous and Mental Diseases*, vol. vi., 1881, p. 64), says that headaches depending upon acute, but much more frequently subacute, forms of disease of the dura mater are much more common than is ordinarily supposed. Affections of the dura due to blows, etc., and which are accompanied by pain, may occur suddenly, or after months, or even years. Tubercular deposits, rheumatic and syphilitic influence, may also give rise to pain in the dura. It sometimes follows in the wake of sunstroke or severe exposure to cold, or arises from the extension of disease from the nasal to the cranial cavity through the cribriform plate of the ethmoid bone, or from the middle ear, as in otitis media, also from unknown causes in cerebro-spinal meningitis. In addition to these, diseases of the bones, or tumors or growths, may lead to painful affections of the dura. Also, diseases of the Pacchionian bodies, or of the brain itself, may lead to affections of the dura of a painful nature. The inflammations of this membrane are ordinarily localized rather than general. Painful affections of the dura may occur at any age, but are commoner during later childhood, youth, and the middle period of life.

With regard to the symptoms, the pain is usually definitely localized. It does not shift from place to place, as it does in many of the circumscribed pains of neuralgia; it is persistent, seldom entirely ceasing long at a time so long as the meningitis continues; it commonly begins gradually and disappears slowly; it is aggravated by anything which increases the activity of the intercranial circulation; it is aggravated by shocks to the head; it is not relieved in assuming the lying-down position. As a rule, it is made worse by increased barometric pressure and by the occurrence of cold weather, or by exposures of the surface to cold by which the cutaneous vessels are contracted, or by any other means by which vascular tension is increased, or by any means by which the cutaneous circulation is diminished in activity or repressed. It occasionally throbs when the heart's activity is increased. It is accompanied generally by more or less mental depression and by ner-

vous irritability, discouragement, and disinclination for mental and physical labor. It is rarely, though sometimes, accompanied by nausea. It is rarely accompanied by general increase in temperature of the head, though a local rise is usual.

The treatment of these affections involves keeping the patient as quiet as possible and away from bright lights and exciting circumstances of all kinds. All exercise, whether physical or mental, except the most moderate, should be avoided. The diet should be simple and unstimulating. If any acidity should appear in the stomach it should immediately be neutralized. The bowels should be kept entirely free. If there is irritation of the bladder, measures should be taken to allay it. All sexual indulgence or excitement should be avoided. All the sleep that can be secured should be had. The patient should sleep upon a gently-inclined plane formed by putting blocks of wood from four to eight inches in height under the head-posts of the bed. By this means the blood is made to gravitate away from the head, and relief is obtained. If possible, a warm climate and a locality high above the sea-level, where the barometric pressure is low, should be secured. The surface should be thoroughly protected from exposure to cold air. Alcoholic stimulants and strong coffee and tea, as a rule, should be avoided in this form of headache. Protracted hot foot-baths are in order.

Among medicines, opium is the most generally useful, either in the watery pilular extract or in the deodorized tincture. It should be given in doses of such size and frequency as to subdue the pain, and should be continued in conjunction with other measures until the pain subsides, when the use of the anodyne may be gradually withdrawn. Side by side with this it is necessary to employ large doses of the iodide of potassium. For an adult, ten grains may be given three times a day to begin with. Each day the dose may be augmented by five grains, until decided evidences are given that the remedy has produced results. If duly diluted with water, from fifty to one hundred grains may be given three times a day if necessary. If the disease is of syphilitic origin, inunctions of mercury may be employed. For this purpose the oleate is to be preferred in the strength of ten grains of the stronger oleate to an ounce of cosmoline perfumed with a little oil of roses. Inunction should be practised twice daily until the effect of the mercury is produced. Counter-irritation behind the ears and along the back of the neck by means of the actual cautery or by blistering collodion Dr. Jewell has found useful. Under this treatment, in the course of a few days, or, at most, of a few weeks, the pain abates. Tonics, as acid solutions of strychnia and quinine, may be given at this stage as required.

THE INDUCTION OF ABORTION AS A THERAPEUTIC MEASURE.—Dr. Priestley recently read a paper under this title before the London Obstetrical Society (*Med. Times and Gaz.*, vol. i., 1881, p. 50), in which the following reasons were adduced as justifying the induction of abortion. 1. Pelvic deformity so great as to preclude the birth of a viable child. 2. Narrowing of the genital canal by tumors, cicatrices, or cancers so as to prevent the passage of a viable child. Great care is here necessary not to overestimate the amount of obstruction. If a series of cases of Cæsarean section with fair success should occur, the reasons for inducing abortion in such instances would be undermined. In cases of cancer there is fair ground for this operation, since the woman has but a short time to live in any case. 3. In obstinate vomiting of pregnancy, where all other expedients are fruitless and a fatal result is anticipated if relief cannot be afforded. 4. In eclampsia abortion should only be induced as a last resort to save life. 5. In irreducible retroversion or retroflexion of the gravid uterus, but only where life is seriously threatened, not merely because the displacement is irreducible. 6. In severe hemorrhage. 7. In certain other diseases, where the complication of pregnancy is undoubtedly endangering life. The responsibility of inducing abortion should never be undertaken without a consultation.

MULTIPLE CUTANEOUS GANGRENE DUE TO CACHEXIA.—In 1878 Professor Simon first called attention to this comparatively rare disease, which for the most part affects children of various ages and has a malignant character. Dr. Eichhoff recently observed a case of this kind at the Breslau clinic for cutaneous and syphilitic diseases. The child, three years old, was first seen in April, and was then suffering from extensive eczema of the face, breast, and back. Constitutional symptoms were not marked at this time, and the eczema rapidly yielded to appropriate treatment. In May the child was again brought to the clinic, when its general health was found to be much depreciated. The back had been covered with dark-red patches, the largest about the size of a millet-seed. Vesicles soon appeared above these patches, but they rapidly collapsed, leaving ulcers, which soon became gangrenous. The sloughing extended deeply down into the subcutaneous connective tissue. Local and constitutional treatment caused these sloughing ulcers to heal with cicatrices resembling those of variola. Some time after this a corneal ulcer developed, and simultaneously with its appearance the head became affected with gangrenous ulcers. The latter slowly healed, leaving deep cicatrices. A second exacerbation occurred in June, and again a corneal ulcer was one of the complications. The ointment, applied locally, consisted of fifteen parts each of camphor and myrrh, with one hundred parts of vaseline.

The pathogenesis of this affection was said to resemble that of ordinary bed-sores. The appearance of the corneal ulcers was explained by the depreciation of the child's general health and insufficient *vis a tergo.—Deutsch. Med. Woch.*, August 21, 1880; *New York Medical Record.*

COMMUNICABILITY OF PUERPERAL FEVER BY THE MEDICAL ATTENDANT.—In a paper on this subject (*Brit. Med. Jour.*, 1880, p. 771) Dr. Macdonald concludes as follows. 1. The diligent and intelligent employment of antiseptic precautions and appliances, good ventilation, and extreme cleanliness are capable of diminishing very largely the occurrence of septicæmia, both in maternity hospitals and in private practice. 2. If antiseptics are carefully and systematically employed, there should be no case of the communication of the disorder from one patient to another by the medical attendant, even when he performs for the sick person all the duties that are incumbent upon him as a medical adviser. It is always, however, to be understood that the doctor restricts himself to his own duties and does not encroach upon those of the nurse, and that his measures to secure perfect antisepsis shall be thorough in all cases where there is the slightest suspicion of septicæmia. It follows also, if these views are correct, that the recommendation, so frequently given to an obstetrician, to leave his practice, in case he meets with puerperal fever, is both unnecessary and unsatisfactory, inasmuch as it tends to the neglect of the most reliable measures of safety,—namely, constant attention to cleanliness and thorough and complete disinfection,—whilst it puts upon the obstetrician a burden that is too heavy for him to bear, and which, indeed, is not borne by the very people who are loudest in recommending its necessity.

THE TEMPERATURE IN TUBERCULAR MENINGITIS.—Dr. Jules Turin (*Med. Times and Gaz.*, vol. i., 1881, p. 75; from *Jahrb. f. Kinderkr.*) sums up the question of temperature as follows. 1. Tubercular meningitis is always accompanied by a rise in temperature in one or other of its stages, but seldom during its entire duration. 2. In a few cases only does the disease begin with a sudden rise of the bodily heat, as in some forms of acute disease. 3. The thermometric results are extraordinarily variable, so that it is quite impossible to establish any typical temperature-curve. 4. In uncomplicated cases of tubercular meningitis the temperature rarely exceeds 102.2° F.; it generally varies between 100° F. and 102° F., but it may also sink some degrees below the normal. 5. The most common type is the remittent, with the usual day fluctuations. The variations within twenty-four hours are normal, or more than normal; sometimes they are very irregular, with more or less sudden rise or fall at any stage and at different periods in the twenty-four hours. 6. If the tubercular meningitis is the terminal of some previously-existing febrile disease,—as, for instance, a coxitis, or any bone or other joint lesion,—the average temperature will be higher than in other cases, but in other respects the course of the disease will be unaffected. 7. In the cases with acute general miliary tuberculosis the febrile exacerbations are more considerable and the variations more marked.

TREATMENT OF OZÆNA.—In several severe cases of chronic inflammation of the nasal and pharyngeal cavities giving rise to offensive discharge, Dr. Poore (*Lancet*, vol. i., 1881, p. 13) has found decided benefit result from the use of a stimulant and antiseptic snuff having the following formula: biborate of soda, nitrate of bismuth, of each one drachm; disulphate of quinine, ten grains; iodoform, five grains. This snuff has the effect of stopping the fetor and greatly diminishing the amount of discharge from the nostrils. It is liable, as are all snuffs when used for similar conditions, to cake in the nostrils, and it is therefore necessary to wash out the nostrils thoroughly once a day. This may be done with the nasal douche, or patients may be taught to snuff a lotion up the nose and allow it to run out of the mouth. A teaspoonful of glycerin of borax dissolved in a wineglassful of tepid water forms an excellent wash for the nose. When there is no bone trouble, sulphide of calcium in doses of half a grain (in pill) thrice daily often benefits the condition. It is often necessary to cleanse the nasal and pharyngeal cavities with a brush inserted through the anterior nares, and also behind the soft palate, so as to reach the summit of the pharynx. The brush may be moistened with glycerate of tannin, and, after the cavities have been cleansed, a little dry iodoform may be passed into the cavities on the tip of the brush.

UNUSUAL FORM OF TELANGIECTASIS.—Mr. Gay reports (*Lancet*, vol. i., 1881, p. 135) a case of telangiectasis occurring in a girl eight years old, which occupied the whole of the right cheek. It seemed to be a teratological development of the venous at the expense of the muscular elements, especially that of the buccinator muscle; for the muscular tissue had receded and disappeared before the growth of the tumor: so that the tumor bulged outward on the cheek very considerably, showing its blue color in patches through the skin, which was extremely thin. On the inner side of the cheek it also bulged as a closely-packed mass of large convoluted veins, which at length protruded so far as to incommode the child in talking and masticating, by getting between the teeth. From the cheek the growth extended in a broad and irregular band across the back of the mouth and the hard palate, the mucous membrane of the entire half of which was occupied by large veins exalting themselves considerably above the normal

level. Mr. Gay operated under ether with the red-hot needle, and gradually succeeded in eradicating the growth, piecemeal, almost entirely. The operations were accompanied by much hemorrhage.

Syphilitic Affections of the Lung.—Gamberini, of Bologna (*Brit. Med. Jour.*, 1881, p. 21), says that laryngeal lesions often precede or accompany syphilitic pulmonary affections. The symptoms of syphilis of the lung are generally those of pneumonic phthisis, from which during life there may be no certain means of distinguishing it; even after death the distinction cannot always be made between gumma and tubercle, especially when the gummy nodules are in a state of caseation or are infiltrated. It must be noted that syphiloma most usually spares the apex, whereas tubercle most frequently attacks that portion of the lung. This, however, is not constant, as has been shown by Fournier. The course of pulmonary syphilis is generally slow and apyretic, which is not usually the case in tubercular phthisis. Syphilis also is accustomed to attack only one lung, and one part of the lung. This tendency to localization is considered by the author to be a very important point in the diagnosis of pulmonary syphilis, whether the lung be attacked at an early or at a late stage of the disease.

MISCELLANY.

International Medical Congress, London, 1881.—Preparations for the approaching International Medical Congress are being vigorously pushed forward by the Executive Committee, and the arrangements are now beginning to take definite form.

The inaugural address, by Sir James Paget, the president-elect of the Congress, will be given in St. James's Great Hall, which has been already engaged for the purpose, on Wednesday morning, August 3. The following mornings will be devoted to the business of the various Sections, while the afternoons (with the exception of Saturday afternoon, which will be left free for garden-parties, excursions, etc.) will be occupied by the general meetings of the Congress, at which four addresses will be given by distinguished men of four nationalities. Three gentlemen have already promised to give these addresses:—Prof. Huxley, probably on "The Connection of General Science and Medicine;" Prof. Volkmann, of Halle, on "Modern Surgery;" and Dr. Billings, of Washington, on "Medical Literature:" the fourth address, to be given by a distinguished Frenchman, has not as yet been finally arranged. The meetings of the various Sections will be held in rooms at Burlington House, courteously placed at the disposal of the Committee by the University of London, the various learned societies, and the Royal Academy of Arts. This, however, not providing the required amount of accommodation, the Committee have engaged Willis's Rooms for the occasion, and four of the Sections will hold their meetings there. As stated in an earlier notice, no less than forty thousand individual medical men in various parts of the world received the original circular of invitation during August and September of last year, and since then the secretaries of the various Sections have been actively engaged in circulating provisional lists of subjects which seemed in the opinion of the committees of the Sections those best suited for discussions and papers. Numerous replies have been received in answer to the communications, in some cases leading to alterations in the subjects selected. These amended programmes have again been distributed among those most likely to take interest in them, and are now combined into a pamphlet, and are issued, together with the rules of the Congress, printed in the three official languages, to any medical man making application for them to the secretary-general. Since the list of names published in November last, a large number of our foreign colleagues have definitely announced that they will come to the meeting, and there seems every prospect of the attendance from abroad being a full one: meanwhile, depending on the number of names appearing as officially connected with the Congress, and in the subscription-list, together with the number of gentlemen from abroad who have positively stated their intention to attend, a certain estimate of one thousand members may be made, and it seems not unreasonable to assume that at least double that number will attend.

The Reception Committee are busily engaged, and have decided upon giving an evening reception at South Kensington, and perhaps a second in the Albert Hall. The Lord Mayor purposes entertaining members of the Congress at dinner at the Mansion-House on August 4.

Commencements of the Medical Colleges of Philadelphia.—The Fifty-Fifth Commencement of the Jefferson College was held on March 12, 205 men graduating. The names of the prize-men were Henry Dickson Bruns, John Ellegood, S. Howard Wilson, J. Charles Martin, Edward Winslow Taylor, L. L. Artis, A. J. Dodds, George W. Stout, and L. L. Rogers. Professor Bartholow delivered the valedictory.

The One-Hundred-and-Fifteenth Commencement of the University of Pennsylvania was held on March 15, 115 men taking the degree of Doctor of Medicine and 47 that of Doctor of Dental Surgery. The prize- and honor-men were George E. De Schweinitz, J. P. Crozer-Griffith, Orlando C. Robinson, Louis J. Lautenbach, Thomas D. Dunn, Guy Hinsdale, Eugene H. Dickenshied, Joseph B. Scott, John B. Gibbs, John J. Buchanan, Moyses Marcondes, and Louis D. Brose, the

honor-men including only those who received a higher average than 95. The valedictory was pronounced by Professor H. C. Wood.

The Commencement of the Woman's Medical College was held on March 17, 19 women graduating. Professor Rachel Bodley delivered the valedictory, in the course of which she stated that 276 women had graduated from the school, of whom 150 are at present in practice. The average annual income of the graduates is $2907; 12 make over $5000 and 4 over $15,000. This statement ought to bring recruits to the college benches.

GENEROUS DONATIONS TO MEDICAL OBJECTS.—It is stated that Honorable Thomas A. Scott has presented $50,000 each to the University and Jefferson Medical College and $30,000 to the Orthopædic Hospital. The trustees of the University design using their donation for the purpose of endowing the chair of Mathematics; but the authorities of the Jefferson College, we suppose, intend to endow one of the medical professorships.

THE thirty-second annual session of the American Medical Association will be held in Richmond, Virginia, on Tuesday, Wednesday, Thursday, and Friday, May 3, 4, 5, 6, 1881, commencing on Tuesday at 11 A.M.

STATISTICS OF CANCER OF THE BREAST.—Vienna statistics show 366 out of 30,000, or one per cent., of female bodies examined post mortem, to present cancer of the breast. In 184 cases that had been operated upon, there were 105 in which metastases had occurred. These were absent in only 41 out of 182 that had not been operated upon. Metastatic secondary cancer occurred most frequently in the lymphatic glands (192), in the respiratory organs (132), and in the digestive organs (139), of which 127 occurred in the liver.—*Med. Times and Gaz.*, vol. i., 1881, p. 48; from *Centralbl. f. Chir.*

READY METHOD FOR HOT FOMENTATIONS.—Place the flannels in the steamer of an ordinary potato steam-kettle. They readily become permeated with the steam when the kettle is placed on the fire, and can be readily changed without any fear of scalded fingers during the attempt to wring them sufficiently dry, as in the ordinary method.—*British Medical Journal.*

MR. STEPHEN JENNER, grand-nephew of the discoverer of vaccination, and himself in childhood the subject of many of his uncle's experiments, is living at the age of eighty-eight, in great poverty, at Heathfield, near Berkeley, England.

A FRENCH TRANSLATION OF DUHRING ON THE SKIN.—We learn that Professor Fournier, of the St. Louis Hospital, has requested permission, on behalf of a former pupil, to translate Professor Duhring's treatise on skin diseases, with notes, for the French practitioner.

THE Professorship of Dermatology in the University of Vienna, made vacant by the death of Hebra, is being contested for by Professors Kaposi, Auspitz, and Neumann, of whom the first is the son-in-law of the late professor and was associated with him in the production of his great work on diseases of the skin. It was at first announced that Kaposi would be chosen without a contest.

CHILBLAINS.—Mr. W. Squire (*Brit. Med. Jour.*, vol. i., 1881, p. 181) says he has found all the vaunted external remedies for chilblains fail in his hands, and he recommends opium, with a little Epsom salt and syrup of ginger, night and morning. The relief is usually rapid.

THE Surgical Society of Paris has awarded the Duval prize to M. Paul Segond, Prosector in the Faculty, for his work on "Acute Abscesses of the Prostate," and has equally divided the Laborie prize between M. L. H. Petit, for his essay on "Palliative Operations in Cancerous Subjects," and M. A. Heatherbe, for his work on "Calcified Epithelioma."

THE West Virginia Legislature has passed a bill creating a State Board of Health.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM MARCH 6 TO MARCH 19, 1881.

WHITE, C. B., MAJOR AND SURGEON.—Granted leave of absence for three months on Surgeon's certificate of disability. S. O. 57, A. G. O., March 11, 1881.

BROWN, H. E., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty at Fort Duncan, Texas, to accompany battalion First Infantry to Fort Davis, Texas, and, on arrival there, report to the Commanding Officer for duty as Post-Surgeon. S. O. 35, Department of Texas, February 26, 1881.

GIRARD, J. B., CAPTAIN AND ASSISTANT-SURGEON.—Having reported in person, is assigned to duty at Fort Verde, A.T. S. O. 23, Department of Arizona, February 26, 1881.

TAYLOR, B. D., CAPTAIN AND ASSISTANT-SURGEON (now in San Antonio).—To report to the Commanding Officer, Fort Ringgold, Texas, for duty as Post-Surgeon. S. O. 40, Department of Texas, March 7, 1881.

GARDINER, J. DE B. W., CAPTAIN AND ASSISTANT-SURGEON.—The leave of absence granted him in S. O. 16, February 8, 1881, Department of Arizona, is extended five months, and so much of S. O. 34, c. s., A. G. O., as relates to him is revoked. At the expiration of his present leave of absence, to report by letter to the Surgeon-General. S. O. 59, A. G. O., March 14, 1881.

GIBSON, R. J., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Granted leave of absence for one month, and permission to apply for fourteen days' extension. S. O. 47, Department of the Missouri, March 10, 1881.

ARTHUR, WILLIAM H., FIRST-LIEUTENANT AND ASSISTANT-SURGEON (recently appointed).—To report in person to the Commanding General, Department of the Platte, for assignment to duty. S. O. 62, A. G. O., March 17, 1881.

BUSHNELL, GEORGE E., FIRST-LIEUTENANT AND ASSISTANT-SURGEON (recently appointed).—To report in person to the Commanding General, Department of Dakota, for assignment to duty. S. O. 62, c. s., A. G. O.

BIRMINGHAM, H. P., FIRST-LIEUTENANT AND ASSISTANT-SURGEON (recently appointed).—To report in person to the Commanding General, Department of the Missouri, for assignment to duty. S. O. 62, c. s., A. G. O.

WYETH, M. C., FIRST-LIEUTENANT AND ASSISTANT-SURGEON (recently appointed).—To report in person to the Commanding General, Department of Dakota, for assignment to duty. S. O. 62, c. s., A. G. O.

PHILADELPHIA, APRIL 9, 1881.

ORIGINAL COMMUNICATIONS.

REMARKS UPON CLINICAL PHASES OF POISONING BY ALCOHOL.

Read before the Philadelphia County Medical Society, January 12, 1881,

BY FRANK WOODBURY, M.D.,
Physician to the German Hospital, Philadelphia, etc.

"CHINESE historians affirm that wine in which the feathers of the Tchin are macerated becomes a deadly poison."* Modern science confirms this clinical observation, but ascribes the fact to a more constant and less fabulous cause. Alcoholic liquors are poisonous because they contain alcohol. Since the various intoxicating beverages in use consist essentially of dilute ethylic alcohol, their toxic effects may be considered in common under the comprehensive title of alcohol-poisoning.

From the universality of the use of these beverages by all races† of men and in all ages, it would at first sight appear that alcohol might be a valuable food. So it was considered by Liebig; whose views were, however, entirely controverted by Perrin, Lallemand, and Duroy, who showed that it was excreted by the lungs, the kidneys, and the skin without undergoing oxidation in the body. Later observers, notably Subbotin, have shown that the ingestion of alcohol does not increase the excretion of carbonic acid, but, on the contrary, reduces it; does not raise the daily amount of urea, but lowers it; does not increase the temperature of the body, but positively reduces it; and does not increase hæmatosis, but, on the contrary, interferes materially with the blood-making function. Such effects are certainly not those of a food, but of an agent which directly impairs nutrition. Anstie and Dupré declared that a certain amount of alcohol disappeared in the passage through the system, and believed that this comparatively small amount was assimilated as food. Parkes and Wollowicz subsequently determined the maximum amount that could be thus assimilated by a healthy man to be from one and a half to two ounces of absolute alcohol per diem.† The latter observers found that when an amount of liquor corresponding with only one ounce of absolute alcohol was administered, no alcohol could be detected in the urine. Upon repeating these experiments, however, I found, in an adult of temperate habits, that so small a quantity as one-fourth of the above gave decided evidence of its presence in the urine; and I believe Anstie also detected alcohol in the urine after a single glassful of sherry. Possibly, this may be explained by idiosyncrasy, but it seems more probable that the person experimented upon by Parkes and Wollowicz had by habit acquired the power of consuming a greater quantity than could be assimilated by an organism unaccustomed to its use.

I am, therefore, forced to the conclusion that alcohol is not a true food in the sense that it favors nutrition in a state of health. Of its value as an accessory food under certain emergencies I shall not speak at present, as it is not germane to our subject; nor shall I enter upon a consideration of the dietetic use or abuse of alcohol. I have broached the subject of its use in health merely in order to establish, if possible, the commencement of its toxic effect. From personal experiment I have concluded that the standard adopted by recent experimenters of one ounce and a half to two ounces of absolute alcohol is rather above the average amount which can be assimilated by the healthy organism, unless given in frequent and very small doses. Alcohol is eliminated slowly from the system, except when excessive amounts have been taken; it then rapidly appears in the urine, in which traces of it usually continue for from sixteen to twenty-four hours. In one case, within ten minutes after drinking about four ounces of whisky, a quantity of limpid urine was passed, whose specific gravity was only 1001½; it evidently contained considerable alcohol.

Of the fact that alcohol, in certain

* I. Klaproth, Lettre à M. Humboldt sur l'Invention de la Boussole, p. 89. Quoted by Thompson in "The Philosophy of Magic," vol. i. p. 41, London, 1846.

† The Mohammedans and Hindoos have been cited as exceptions to this rule because such use is forbidden by their religion; but no one will claim that therefore drunkenness is entirely unknown among them.

‡ The equivalent of alcoholic beverages for a healthy adult, as stated by Parkes, is as follows: two fluidounces of brandy, or five ounces of the strong wines (sherries, etc.), or double the quantity of the weak wines (clarets and hocks), or twenty ounces of beer. "If these quantities be increased one-half, one and a half ounces of absolute alcohol will be taken, and the limit of moderation for strong men is reached." Parkes's Principles of Hygiene, 5th ed., Philadelphia, 1878, p. 298.

amounts, is capable of causing death, there can be no question whatever: on this point all writers upon toxicology are agreed, and numerous cases might be cited in proof. Tardieu, for instance, records a medico-legal case where a man was induced by a wager to drink within a short time a bottle of brandy. He accomplished the task, fell to the floor in a state of coma, and died in sixteen hours.*

In its concentrated forms, when taken into the stomach, alcohol may cause death from local action upon the mucous membrane, producing softening and abrasion and violent gastro-enteritis. Two tablespoonfuls of sixty per cent. strength have proved sufficient to cause the death of a child.† As in other remedies, different effects may be expected when exhibited in the single toxic dose, in the interrupted dose, and in the continued dose. For convenience of discussion, although not exactly synonymous, let us consider the clinical accidents arising from the first two under the head of acute alcoholic poisoning, and those of the latter under chronic alcoholism. In so doing we shall follow the dictum of Magnus Huss, who first called the attention of the profession to the symptoms of chronic alcoholic poisoning under the title of alcoholism.‡

Let us first consider the effects of acute alcohol-poisoning, where coma, with complete muscular resolution, exists. Since this condition often terminates fatally, it is important to distinguish it from insensibility from other and widely different causes, such as cerebral apoplexy, hysteria, uræmic coma, opium-poisoning, concussion of the brain, and similar conditions. Dr. H. C. Wood says that "when the patient is simply seen in the advanced stage of deep coma an absolute diagnosis cannot be made out."§ I think, however, that by attention to the objective conditions we may make a tolerably certain diagnosis by exclusion. Without taking up each of these different diseases with which alcoholism may be confounded, let me say, in brief, that, while in this condition coma and complete muscular prostration may exist, there is no difference between the two sides of the body as regards muscular tonus or surface-temperature; the latter is below rather than above the normal. More especially is it to be noted that there is no hemiplegia. The pupils are not constant; generally they are moderately contracted; before death they may dilate. There is no conjugate deviation of the eyes, as often occurs in apoplexy and injuries of the brain. Hemorrhage into the pons Varolii, however, is said to be accompanied by contracted pupils, coma, and general muscular resolution. The pupils in cerebral hemorrhage are usually irregularly dilated. MacEwen, of Glasgow, recommends the alteration which occurs in the pupils when the patient is disturbed as a reliable sign of alcohol-poisoning. The pupils in such a case will dilate temporarily if the patient be shaken or his beard pulled. This merely proves that the condition is rather one of deep stupor than of complete coma. I cannot believe that a case of true coma would have a mobile pupil, or, if it should dilate under such circumstances, that it could afterwards again contract.

I have not mentioned as distinctive the test commonly relied upon, *i.e.*, that furnished by the alcoholic odor of the breath. Where it exists it furnishes confirmative rather than conclusive evidence, since the individual may have taken a stimulant just before the attack of illness, or it may have been administered afterwards. It thus becomes a nice question to decide in some cases whether it is alcohol or disease, or both. A much more reliable test is furnished by the urine. In all cases of narcotic poisoning the bladder, as a matter of routine treatment, should be evacuated by a catheter. The urine may be tested for alcohol by adding to it a small quantity of chromic acid test (potassium bichromate one part, acid sulphuric three hundred parts), as proposed by Anstie. But I would recommend the adoption of a slight modification, which has yielded very satisfactory results in the few cases in which I have tried it, as follows. In a medium-sized test-tube about a drachm of clear, colorless sulphuric acid is placed, and about three times the quantity of the urine to be tested is then to be poured down the side of the test-tube, so as to prevent immediate mixing of the fluids; a small crystal (split-pea-sized) of potassium bichromate is then dropped into the tube, which is then given a gentle rotary motion, so as to dissolve a little of the bichromate and diffuse it through the sulphuric acid.

* Clinique sur l'Empoisonnement, p. 848. Paris, 1867.
† Deutsch's case, Schmidt's Jahrbücher, Bd. xxv.; from Preuss. Vereinzeitung.
‡ Die Chronische Alcoholkrankheit, Stockholm, 1852.
§ Therapeutics and Materia Medica, 3d ed., p. 125.

The tube is then set aside in the rack. The limpid lower stratum of liquid will in the course of from a few minutes to an hour assume a decided emerald-green coloration, the depth of the color being proportionate to the amount of alcohol. This test may be confirmed by fractional distillation, provided that enough alcoholized urine can be secured to render it practicable.

In attempting to differentiate these cases from those of apoplexy, it should not be forgotten, however, that alcohol stands in a direct causative relationship to cerebral hemorrhage, as autopsies have proved. In seven cases of death during acute alcoholism, Tardieu* found two with hemorrhages into the lungs, meningeal apoplexy in six, and in four there were also ventricular effusions of blood. This authority concludes that "in death coming on rapidly during the state of drunkenness, pulmonary apoplexy, and especially meningeal apoplexy, are lesions which, if not constant, are at least extremely frequent and almost characteristic." Hughlings Jackson reported a case in which alcohol impregnated not only the breath but the urine, and at the post-mortem examination a large clot was found covering nearly the whole of one hemisphere. The question of treatment of these cases I reserve for discussion farther on.

In other cases of acute poisoning by alcohol, convulsive symptoms supervene, and occasionally epileptiform seizures are very marked, probably owing to the action upon the medulla oblongata of blood deficient in oxygen. I have seen but one case of this kind, which occurred in a mulatto some years ago. After taking from the arm about ten ounces of extremely dark blood, the convulsions ceased and did not return. The next day the man was apparently as well as usual and ready for another spree. In this connection I may also be permitted to mention a case of catalepsy in a slender young man, about nineteen years of age, who came under my care some eight years ago, while resident physician in the Pennsylvania Hospital. He was brought to the institution perfectly unconscious and perfectly rigid. I remember there was some difficulty in getting him out of the carriage, as his body was fully extended, and he was carried in supported by his heels and his head. I found that on forcibly placing his limbs in any position they would remain thus extended in the air as if they were frozen. Upon lifting the closed eyelids the eyes were seen to be rolled upwards and constantly in motion (nystagmus); the pupils were dilated moderately. It was said that this condition came on after drinking a single glass—his first glass—of whisky, and that he was not subject to such attacks. The application of faradic electricity quickly restored the patient to consciousness, and he would gladly have gone home at once if he had been permitted; but he was kept in bed until morning, and then discharged perfectly well, no further treatment being required.

I now come to speak of a form of acute poisoning from the abuse of alcohol, with which all are familiar, the so-called mania a potu, or delirium ebriosum. I will not, therefore, weary you with any reference to cases. Let me say, however, in a word, that the distinguishing trait of this condition is that it occurs as a result of an overindulgence in alcohol in an organism unaccustomed to its use: it is the form that appears in men who go on occasional sprees, with periods of temperance or total abstinence between. Such cases have active delirium, characterized by delusions and homicidal tendencies. The condition is characterized by great nervous and vascular excitement, the face is flushed, the eyes bright, the ego elevated. The diagnosis and prognosis are based solely upon the history of alcoholism, for to all intents and purposes the patient is suffering from acute mania. When this condition is compared with chronic alcoholic poisoning and, in its characteristic form, delirium tremens, a marked contrast is seen to exist. This condition, as originally described by Sutton, is essentially one of nervous and vascular depression. The face is pale, the eye dull, there are illusions in place of delusions, a suicidal tendency takes the place of a homicidal, and melancholy replaces mania. Sleeplessness exists in both, but in one it is due to cerebral congestion, in the other to cerebral exhaustion. Tremor of the muscles is a marked symptom of the latter, and gives it its name.

I shall not here attempt a detailed consideration of the various diseased states that are associated with chronic alcohol-

* Observations médico-légales sur l'Etat d'Ivresse considéré comme Complication des Blessures et comme Cause de Mort prompte ou subite. Ann. d'Hyg. Publique et de Méd. Légale, tome xl., 1848, et Dict. de Méd. Prat., *loc. cit.*

ism, since many of them are only indirectly due to it. In the words of Boehm,* "The poison of alcohol, either alone or combined with other pathological causes, produces bodily or mental diseases which in themselves afford nothing characteristic of the effects of alcohol." That it is a most fruitful source of disease, both physical and mental, all authorities are agreed, the tendency of alcohol being to cause fatty degeneration and sclerotic changes in all the soft tissues of the body. Nor shall I essay the enumeration of the various diseases attributed to alcohol; in the words of Bartholow, they may be summed up as "sclerosis and steatosis."

The point, however, that I would now insist upon, and which I consider has a most direct bearing upon the treatment of alcoholism, is this: the long-continued existence of alcohol in the blood produces important changes in nutrition, to which the system in a measure accommodates itself, so that the patient requires less food to support life than without the alcohol (as in a case quoted by Anstie,† where a tailor drank a bottle of gin daily for years, and who took in addition a small piece of bread each day as his only sustenance). In such cases it cannot be doubted that alcohol plays the rôle of an accessory food, and changes take place, converting the organism into an alcohol-burning apparatus, and correspondingly unfitting it for the ordinary carbo-hydrates and hydro-carbonaceous food. This will, I think, serve in a measure to explain why depriving a drunkard of his drink may cause a sudden failure of nutrition with the rapid appearance of an outbreak of delirium, denotive of cerebral exhaustion, and characterized by failure of mental power, hallucinations, prostration, and muscular tremor. Let me repeat the fact that in health, if at all, only very small amounts of alcohol are consumed by the system, but in chronic alcoholism the tissues have undergone such changes as to confer upon them the power to derive force from alcohol, which unfits them to a corresponding extent for normal nutrition.

The term delirium tremens was adopted by Sutton in a work published in 1811, in which he took especial pains to show that the symptoms were not due to phrenitis or meningitis. He showed also that bleeding and blistering were generally fatal, and that these cases need a supporting treatment, and especially opium.

Strangely enough, in "Ziemssen's Cyclopædia" (*loc. cit.*), Prof. Boehm, in referring to Sutton's work,‡ gives this author due credit for originality in the use of the term delirium tremens; but, on the other hand, he states that it was reserved for Rayer in 1819 to indicate alcohol as the prime factor in the etiology of the disease. It is quite evident that he had not read Sutton's tract on Delirium Tremens, or he could not have said that this author had overlooked its connection with alcoholic excess. Here is what Sutton, after reporting several cases, says:§ "It has been remarked in several of the above instances that the parties attacked by delirium tremens have been given to drinking; and I feel firmly persuaded that all cases of this disease are connected with indulgences of that nature." Could language be more plain and unequivocal than this? Again, he says,‖ "But that fermented liquors, and more especially spirits, are the general cause of the disease, is rendered certain by the frequency of it in situations where the indulgence of them can be had at a reasonable rate. On the coast of East Kent, where I was first led to distinguish this affection, and at the time alluded to, spirits brought in by smugglers might be had in great abundance at a cheap rate; and such as labored under delirium tremens in that quarter were mostly those who confessedly indulged in the use of spirits to excess."

Several varieties of delirium tremens have subsequently been indicated by industrious investigators which we cannot now consider, such as febrile delirium tremens, which, according to Magnan, generally runs a fatal course in a few days, and is probably connected with some local inflammation, such as meningitis. Nor need I discuss the uræmic form of Surmay.¶ Epileptic insanity may at any time occur as a complication. Dipsomania is undoubtedly a psychosis, often inherited, sometimes due to traumatism or severe mental shock, not necessarily dependent upon previous alcoholic excess. The clinical forms of confirmed alcoholism

* Ziemssen's Cyclopædia, Am. ed., vol. xvii., New York, 1878, p. 400.
† Stimulants and Narcotics, London, 1864, p. 451.
‡ Tracts on Delirium Tremens, on Peritonitis, and on some other General Inflammatory Affections, and on the Gout. By Thomas Sutton, M.D. London, 1813, p. 2.
§ Loc. cit., p. 47. ‖ Loc. cit., p. 50.
¶ De quelques Formes peu connues de la Cachexie alcoölique, etc., L'Union Médicale, pp. 19–21, 1868.

known to the alienist—such as pachymeningitis hæmorrhagica, general paralysis, melancholia, and hopeless insanity (hopeless because dependent upon sclerotic and fatty changes with atrophy of the brain)—are conditions belonging directly to our subject, but which need not at present engage our attention.

Let us, however, in conclusion, consider very briefly the therapy of the three forms most commonly encountered by the general practitioner,—*i.e.*, alcoholic coma, mania a potu, and delirium tremens,—a subject which has given rise to a good deal of controversy. In the first place I will consider coma. In rapidly-fatal cases of alcoholic poisoning, failure of respiration commonly occurs previous to cessation of the heart's action. Therefore, besides the ordinary treatment of narcotic poisoning by the use of the stomach-pump and purgative enemata, and the application of warmth to the extremities, it will be proper to fortify the action of the respiratory centres by the hypodermic administration of (gr. $\frac{1}{120}$) atropia with (gr. $\frac{1}{12}$) morphia, repeated at proper intervals. The urine should be drawn off, both for examination and to encourage the action of the kidneys. It may also be necessary to employ electricity and artificial respiration to assist the lungs in excretion of the surplus of carbonic acid, which now tends to accumulate in the blood. Indeed, Sampson, an English physician, in the treatment of such a case found himself obliged, as a last extremity, to resort to tracheotomy, which proved successful.*

Reginald Southey,† in a recent lecture on this subject, deprecates active measures, because if the case should happen to be one of hemorrhage into the pons Varolii, instead of one of alcohol-poisoning, such treatment would be improper; but since the cases of hemorrhage into the pons must be quite rare compared with those of alcohol-poisoning, and since they are invariably fatal under any method of treatment, I regard them as entirely out of the question, and should treat such a case as one of alcoholic coma. As soon as the patient has his stomach emptied by the stomach-pump, a pint of hot coffee may be thrown into its cavity and allowed to remain. Inhalations of ammonia will greatly assist in reviving the patient. An individual supposed to be insensible from alcohol should never be allowed to remain in a state of coma to sleep off a fit of drunkenness. Too often it proves his last sleep, either from carbonic acid poisoning or from secondary cerebral hemorrhage.

Acute mania induced by alcohol is commonly subdued by ether- or chloroform-inhalations and hypodermic injections of morphia. In such cases I have known a grain of morphia to be administered with only good results. The standard prescription for the minor forms of acute alcoholism is one containing bromide of potassium and chloral in decided doses, given every two hours until sleep is obtained. Where there is much arterial tension, the tincture of hyoscyamus or hyoscyamia has been highly recommended. Care should also be taken to give nourishment frequently, in a form easy of assimilation on account of the possible gastric inflammation. The patient will be found more manageable when confined to his bed, and it often becomes necessary to strap him down. During convalescence stomachic tonics to improve the digestion may be given. For this purpose occasional laxatives and tincture of capsicum, tincture of nux vomica, and compound tincture of cinchona may be used with advantage. To diminish the appetite for strong drink, a freshly-prepared fluid extract of cimicifuga with tincture of capsicum may be steadily employed, as recommended by Bartholow.

I will not dwell upon the treatment of delirium tremens further than to say that it requires pre-eminently a symptomatic and supporting treatment. Such cases generally suffer from numerous other evils, among which we notice prominently chronic gastric catarrh, owing to local action of the alcohol upon the mucous coat of the stomach causing atrophy of the peptic glands and increase of submucous connective tissue. Foods, therefore, which are digested in the small intestine, and peptones, are particularly required.

If I have correctly stated the conditions existing in acute and chronic alcoholism, I think it will be seen that good reasons exist why the administration of alcohol as a part of the routine treatment is as necessary in true delirium tremens and in chronic

* Article Alcoölisme, Nouveau Dict. de Méd. et de Chir. Pratiques, Paris, 1864.

† London Lancet, December 18, 1880.

alcoholism as it would be improper in acute alcoholic poisoning. I am fully aware that the routine administration of stimulants is not uncommon in these cases,—which is partly due, I think, to the fact that these states are often confounded clinically under the common title of alcoholism, although their different pathology is insisted upon by almost all the text-books. Then, if we separate clinically the effects of acute alcoholic excess from the condition of chronic alcohol-poisoning, with or without delirium, I believe that we are in a position to institute a rational treatment for mania a potu and delirium tremens.

To summarize:

1. Acute alcoholic poisoning, manifesting itself in the forms of coma, convulsions, and mania a potu, is characteristic of the physiological action of alcohol upon a system unaccustomed to its use. Its treatment, in cases of coma and convulsions, is like that of the other narcotic poisons producing paralysis of the respiration, but in mania powerful cerebral sedatives are required. During the after-treatment alcohol is not necessary, but, on the contrary, every encouragement, both by precept and by prescription, should be given the patient to adopt total abstinence as his only chance of safety.

2. Chronic alcoholic poisoning, exhibiting itself in the form of the horrors, vigilance, delirium tremens, or melancholia, on the contrary, bespeaks the existence of a depressed condition of the vital powers due to saturation of the system with alcohol, and consequent degenerative changes. Such unfortunate cases, suffering from what might be called an alcoholic diathesis, require careful nursing, a supporting treatment, and the continuance of stimulants, which to them have become both food and drink.

218 South Sixteenth Street, Philadelphia.

Therapeutic Value of Tartar Emetic.—Dr. A. B. Arnold, of Baltimore, thinks this remedy has fallen into undeserved neglect. In inflammatory croup it is capable, if early used, of keeping it in the catarrhal stage and preventing its passage into the membranous form. He gives in these cases one-twelfth of a grain every hour to a child. In one case, aged six years, he gave one-fourth of a grain every hour, with excellent results.

THE PHYSIOLOGY OF CLIMATE, SEASON, AND ORDINARY WEATHER-CHANGES.

BY ALEXANDER RATTRAY, M.D.,

San Francisco.

(Concluded from page 395.)

THE true *cause* and *sequence* of the above-discussed physiological phenomena will now be apparent. One of the earliest and most important effects, if not the primary effect, of climate, season, and weather-changes, is on the blood. Through the re-distribution of this the many different tissues, organs, and functions are secondarily influenced. Of this these effects are merely the outward manifestation, the most important being in the organs of vegetable life, those of animal life being less important and of subsequent manifestation.

The *primary* object of the climatic law to which the entire circulation is so obedient is to adapt the body to altered meteorological conditions, and chiefly, first, to keep its temperature at a normal physiological or healthy standard (slightly different in different persons), reducing it in warm temperatures by spreading the blood out in shallow streams and thus cooling it partly by radiation and partly by evaporation, and in cold air to preserve the caloric by concentrating the blood in the interior and increasing the lung-function and blood-oxidation; second, to carry on the necessary blood-purification chiefly by the lungs, skin, kidneys, and liver,—that is, those organs which excrete useless or hurtful matters.

The *ulterior* object of this climatic law of the circulation is salutary and *hygienic*,—that is, meant to keep the body in health. The resulting physiological changes, both hæmatic and functional, are vicarious and compensatory. Proof has been given that frequent change of climate, season, and weather tends to increase both the ordinary and the vicarious action of the involved organs. These changes tend to assimilate the various tissues, organs, and functions of the natives of one zone to those of native races, to meet the requirements of the foreign clime for which they are not and perhaps never can be altogether physiologically fitted, not even the inhabitants of the temperate zone, who are gifted not only with the strongest constitution, but with the greatest vital resiliency and adaptability to thermometric changes.

These physiological changes mould the pliant human frame to varying meteorological conditions. In short, they tend to *acclimatize* the body and to induce what have been termed the spring, summer, autumn, winter, and also the tropic, temperate, and arctic or antarctic, *constitutions*. On the nice adjustment of this new balance of the circulation and functions we continually depend for health and comfort. Harmonious action is health. Its disturbance is disease. To maintain normal action the blood-flow into the different organs must not amount to more than the above percentage. If greater, the balance is broken, engorgement ensues, and disease results. This hyperæmia and overtaxed function—one or both—begin some of the most frequent and serious diseases that afflict the human race. Hence the importance of the study of the physiological laws of climate, and the value of a complete knowledge of their nature, extent, and mutual relations, especially for hygienic and therapeutic purposes.

Explained thus, the difference in the functional effects of this law arising from age, size, sex, and so on, will be readily understood. As with the spirometric capacity, these are most evident in those of largest frame, *e.g.*, in adults and males; in short, in those who have most blood and thereby show the greatest displacement.

The law also explains the slightly-raised temperature of the surface in warm atmospheres, from increased turgescence of the cutaneous capillaries, activity of the calorific and respiratory processes of the skin. And, as modern research is rapidly proving that increased or diminished activity of organs is accompanied by increased or diminished vascularity and temperature, so it may yet be proved that the temperature of internal parts is perhaps somewhat lessened by their vascular depletion.

The law explains why the pulse and general circulation are slower and feebler in high temperatures. The mass of blood, spread out in the congested and physiologically-active cutaneous capillaries, leaves less to stimulate the heart and those arteries by which the pulse is usually counted.

Since pathological are often merely an exaggeration of physiological processes, it is interesting to notice how fully the above-mentioned phenomena are endorsed by and capable of being correlated with scattered facts supplied by previous writers,—thus proving that in medical as in general science no truth, though apparently immaterial and isolated, is without its value. The post-mortem lightness of the lungs in the tropics, recorded by Parkes, is a result of this climatic law. And, seeing that *heat drains internal organs*, research will probably show a similar anæmic state of the liver, pancreas, and other internal organs and parts. So, also, the morbid changes induced by cold so intense as to be pathological and fatal are a necessary sequel to a perversion of the climatic law of the circulation. Congestion of internal organs is then observed in a more decided form. Thus, Quelmalz found the vessels of the brain turgid and the large vessels and arteries filled by polypous concretions (coagula?). And he rightly refers the sopor preceding death to congestion of the cerebral vessels and effusion of serum into the ventricles. Rosen also observed the intercranial vessels engorged. Cappel found the blood and fluids accumulated chiefly in the thoracic and abdominal organs. Kellie, besides these appearances, notices a bloodless state of the scalp, engorgement of the intercephalic sinuses, and remarkable redness of the small intestines from sanguineous turgescence. These facts prove that *cold congests internal organs*.

The physiological law of climate, which has thus been proved in the Caucasian and Ethiopian races, that is, the inhabitants of the temperate and tropical zones, is doubtless *universal*, and extends to the Mongolian and other races, as well as to the natives of the Arctic and Antarctic circles. In short, it embraces the entire human race, whatever their nationality or clime. The law and its physiological manifestations are necessarily all the more trying when the natives of Arctic or Antarctic regions visit the tropics, or those of the tropical regions the frigid circles, owing to the greater thermometric range and resulting physiological phenomena. The physiological phenomena resulting from season and ordinary weather-changes are likewise universal, and affect the natives of every zone.

Modern research is thus continually developing the influential part played by those wide-spread and now easily-controlled agencies once termed the "imponderables" (heat, light, actinism, electricity,

magnetism, gravitation, cohesion, and chemical affinity) in many of the great operations of nature, both in the animate and the inanimate world, and nowhere more than in the human body. Of these, *heat* and its absence *cold*, especially the former, are the most powerful. Indeed, there are few more important subjects for medical study than the influence of temperature on the human frame. Heat is a never-absent element in every process of health and disease, and in the operation of every hygienic and therapeutic remedy.*

Again, in these phenomena of altered functions and the greater one of the circulation, of which these are merely the expression, that mainly implicate what Sir Thomas Watson has so happily termed the "hydraulic machinery" of the body, we have not only a forcible example of the universal reign of law, a proof that mechanico-vital laws are as dominant in the animate as are purely physical ones in the inanimate world, but also a notable instance of a physical force originating, controlling, and modifying different kinds of vital processes.

The effects of heat on the human frame find a curious and instructive parallel and analogue in some of the greatest and most beneficent operations of nature in the inorganic world, thereby proving that heat is as important a physiological and pathological as it is a physical force. Thus, the heat which emanates from the sun, one of the greatest of all motive powers, influences the surface of the earth we inhabit very much as the self-generated caloric acts on the human microcosm which makes it. Acting on the sea and the air near the equator, their heated and thereby lightened particles rise and overflow to form those great and beneficent winds, ocean-currents, and rain-deposits, so important in the sanitary as well as in the social economy of the globe. So, in similar circumstances, or in artificially-formed tropical atmospheres, the blood flows from internal parts towards the finely-divided surface capillaries, to produce equally great and vital changes in the human economy. In all three the *agent*, a physical one, is the same, namely, *heat*. In all three it acts in the same way, namely, as a *vis a fronte* or attracting force. And while solids, liquids, and gases are alike acted on, the *manner* in which this is usually effected corresponds, the latter three or vivifying air, ocean, and watery vapor in the one case, and the life-sustaining blood in the other, being directly influenced, the solids being only indirectly and in a minor degree affected by and through these. The *parts* primarily acted on are the same, namely, that nearest the heating agent, the thin upper layer of water, the lowest stratum of air, and the cutaneous surface or shallow waters of the human circulation. The *primary effects* are the same, namely, a change in the direction of original currents. The *final results* are the same, namely, purification of the air, ocean, and body, and modification of their temperature. And the *ultimate objects* in all are identical, namely, hygienic and therapeutic, the promotion of the health and comfort of the different forms of life they severally sustain, that of the body nourished by the blood, and of the animals and plants which occupy the air and ocean. Without these phenomena of ocean-currents, winds, and blood-circulation, the heat of tropic lands and seas and the cold of other regions would soon become intolerable, and those of the skin and body either too high or too low for the maintenance of their vitality, while all three, the air, ocean, and blood, would rapidly become impure and unfit to sustain life.

The law thus induced by thermometric changes in the air proves that heat, long included in the category of therapeutic agents, is among the most potent of them all, inasmuch as it acts not slowly and on one organ or function, but promptly, certainly, and largely on every part, and stimulates not only their ordinary but also their vicarious or compensatory action. The effect of heat on the frame also finds its parallel in the action of certain medicines which apparently act on the circulation either directly or indirectly through the nervous system, thereby sending the blood to certain organs or parts in larger quantities than at other times. Thus, sudorifics, like heat, cause a diversion to the skin, diuretics to the kidneys, sialagogues to the salivary glands, galactagogues to the mamma, emmenagogues to the uterus, and so forth.

The recognition of these facts and of the law on which they depend, moreover, gives a firm and philosophical basis for the

* See two valuable papers on "Cold and Heat," by T. Wilkinson King, Esq., London Medical Gazette, June 23 and July 21, 1843.

further elucidation of the effects of these important physiological factors, climate, season, and weather, regarding which many points still need inquiry, of not more interest in a purely physiological point of view than in what may be termed ethnological or racial physiology, and in the solution of the long-vexed and still unsettled question of the unity or plurality of species, and the original development of man from one or several genetic centres.

Those physiological facts are necessarily of most value which are of practical application in the prevention, relief, or cure of disease. Hence the present subject is of etiological and semeiological importance. And in warm seasons or in tropical climates how can we properly estimate whether or not observed phenomena are pathological till we fully understand the physiological or healthy effects of high natural temperatures? Evidently, therefore, the study of the latter is the first step towards an accurate acquaintance with and philosophical method of treating or preventing many morbid processes.

The preceding facts are of *hygienic* and *therapeutic* value, and form a fitting preliminary to an inquiry as to the preventive, curative, or palliative effects of the same potent physiological agency in disease generally, especially in *lung and chest ailments*. And they not only give a clue to the rationale of the action both of those agencies heat and cold, and of many other frequently-employed remedies, but also furnish an indication for the application of these as prophylactic and curative media.

Lastly, as has been already shown, these facts materially aid in the diagnosis of lung ailments by furnishing a more accurate system of spirometry.*

To conclude, the following may be given as a summary of the more important of the preceding facts and inferences resulting from change of climate, season, or ordinary weather-fluctuations, when the thermometric rise is from 42° to 83° Fahr., or the reverse.

1. An increased spirometric capacity of the lungs to an average of 12¼ per cent., or 31 cubic inches, equivalent to a reduced vascularity by 17.88 fluidounces.

2. A diminished respiratory function, as shown by a slower respiration to the extent of 8.9 per cent., which combined phenomena diminish the amount of air consumed daily by 36.85 cubic feet, or 18.43 per cent., of carbon excreted daily by the same percentage, or 1.843 ounces, and of watery vapor excreted by the same percentage, or 4 fluidounces, nearly.

3. A diminished pulse by two and a half beats per minute, and perhaps a reduction in its force also.

4. An increased body-temperature by from 1° to 2° Fahr.

5. A diminished urinary secretion by 17½ per cent.

6. An increased perspiratory secretion to the extent of 22.38 per cent., and perhaps a correspondingly-increased elimination of carbonic acid by the skin.

7. A diminished hepatic secretion to the extent of 0.15 per cent.

8. A diminished weight of the body in the majority, and a like impairment of the physique, often to the extent of 64 per cent. and average of five pounds.

9. Retarded growth in the majority of youths.

10. A correspondingly-increased supply of blood or vascularity of certain of the involved organs, and a similarly-diminished turgescence of others, according as their function is increased or diminished.

11. Phenomena of an exactly reverse kind, and to a like extent, on making an opposite change of temperature,—namely, from heat to cold.

12. A corresponding fluctuation, both in vascularity and function of corresponding organs, after each successive change of temperature.

13. The occurrence of similar phenomena as a result of change of *season*, and also of the ordinary *weather*-fluctuations prevalent everywhere.

14. The occurrence of like results, and from a like cause, from change of *altitude*.

15. The dependence of one and all of these phenomena on a definite cause, which may be termed the *climatic law* of the circulation, by which internal organs are congested at the expense of external ones under the influence of cold, and external ones congested at the expense of internal ones under heat.

16. The greater extent of these phenomena in adults and persons of large frame, and that for an obvious reason, the greater bulk of the blood.

17. The existence of a certain range in this redistribution of the blood and the

* See the Pacific Medical and Surgical Journal for August, 1879, and May, 1880.

resulting functional and morphological changes, which varies according to size, age, sex, and individual peculiarities, and beyond which they become pathological.

18. This physiological rise and fall, especially when great, as during zonal migrations, tend to increase both the ordinary and the vicarious action of the different involved organs.

19. The climatic law and its results affect the white and the black race, and therefore, presumably, every other race and variety of mankind, though each, doubtless, has its physiological differences.

20. They likewise manifest themselves in all latitudes and climates, in every change of season, and even during local variations in the weather.

21. In all cases, whether from climate, season, or weather-changes, the primary and essential cause of these physiological phenomena is *change of temperature.*

22. As the aërial temperature is everywhere and at all times varying, so these physiological phenomena are not only of universal occurrence, but also in more or less constant progress in every individual over the entire face of the globe.

23. Temperature being their exciting cause, they necessarily vary with this in extent, and therefore may alter as greatly and much more speedily within the twenty-four hours of the day than they do during a more slowly accomplished change of season or zone.

24. Their ultimate object in health is hygienic.

25. Seeing that they are as evident in morbid as in healthy states of the frame, they may thus act, according to circumstances, as therapeutic agents, or the reverse.

MYELOID SARCOMA OF THE TIBIA.

BY HENRY M. WETHERILL, M.D.

KATE S., æt. 20, single. Admitted to the surgical ward of the Pennsylvania Hospital, under the care of Dr. R. J. Levis, January 27, 1880.

She gave the following history. Her father died of phthisis; her mother about two years previously had been successfully operated upon for an external tumor, and her brother had at the time a large one upon the back. A few months after a fall and contusion of the right knee, the patient noticed a small, firm tumor just below the right patella, which has gradually increased in size, and for the past six months has been the seat of severe lancinating pains. Menstruation, which before was quite regular, during the past year has been almost absent. Upon admission, the patient was pale, weak, and anæmic, and received tonic treatment. The tumor involved the knee, but seemed to spring principally from the head of the tibia, the growth being principally forward. The circumference of the tumor over the head of the tibia was twenty and a quarter inches, and in length it was ten and a half inches. The knee was flexed at a right angle, and anchylosed. The tumor was pale, smooth, somewhat elastic, and rather painful when handled, with enlarged, tortuous, superficial veins, cystic in character. The inguinal lymphatic glands of the right side were slightly enlarged and indurated.

Upon the 4th of February Dr. Levis amputated the limb at the middle of the thigh, making antero-posterior flaps. At the point of division of the femur the bone was much less consistent than normal, the saw almost dropping through of its own weight. Carbolized dressings and a drainage-tube were used. When the stitches were removed, February 11, it was found that the entire line of flaps had united by first intention, except at the angles, which were kept patulous by the drainage-tube, and by February 26 the stump had completely healed, and the patient was sitting up. Upon the 8th of March she complained of severe throbbing pain in end of stump, the line of cicatrization being tender, hot, red, and throbbing. She was ordered to bed, and sedatives applied to the stump; quinine and morphia given *pro re nata.* Upon the 16th a small opening made its appearance in the cicatrix opposite the end of the femur, and a probe passed through the opening discovered a tract two and a half inches in depth leading towards the femur; but no dead bone could be detected. The same treatment being continued to April 1, the three catgut ligatures, with the knots apparently as closely drawn as when applied, were at that time found upon the surface of the poultice. They were quite hard and tough, and looked like the stems of raisins. From this time the stump rapidly healed.

Remarks.—It would be unfair to the application of catgut in surgery to withhold the fact that the ligatures employed in this case had been unskilfully prepared, the solution of chromic acid in which they had been macerated being too strong,—a condition which never fails to render catgut very tough and almost imperishable, those discharged from this stump not being even softened after lying for months in contact with the warm, moist discharges.

EXAMINATION OF THE TUMOR.

The specimen shows a section through the centre of the tibia with its tumor, the knee-joint, and the femur. The tumor commences

on the tibia, five and a half inches below its articulating head. A transverse section of the growth measures five inches in diameter; a half-circumference, eight inches. The extreme length of the growth upon the fibular side is six inches. The anterior and posterior portions of the head of the tibia have been raised up by the growth, and extend like a cap around the articulating surface of the femur; but the articular cartilage appears smooth and normal, and in the recent condition the joint appeared without fluid. The entire surface of the tumor is covered with thickened periosteum and a thin shell of bone, the remains of the compact substance of the tibia.

At the lower portion of the tumor, where it meets with normal bone, the compact substance is much thickened by periosteal growth, and is spread out around the lower segment of the tumor like the cup-shaped receiver of a ball. Over the surface of the tumor were attached and displayed the tendons and muscles, the latter undergoing fatty degeneration. The surface of the section of the tumor shows a great variety of colors and consistence of its tissue, varying from a dense white to a dark blood-red, from solid meat-like masses to cysts of varying size filled with dark-red fluid. Microscopic sections taken from various portions of the tumor show it to be a myeloid sarcoma in which the myeloid cells are of small size.

Many portions of the tumor had almost completely undergone degeneration, leaving behind bands of fibres with no cellular elements; at other portions the degeneration was less complete, the spindle-cell element having disappeared, leaving, however, myeloid masses which were undergoing granular and fatty degeneration. A microscopic examination of the medullary substance of the tibia below the tumor showed it to be involved in the growth, the myeloid cells being abundant and large in size. The medullary substance of the femur is pale and fatty-looking, but there was no evidence of its involvement.

This case has been under observation for the past year, and has never suffered in any way since, enjoying better health than ever before. The stump is exceptionally free from pain, and is in excellent condition for the adjustment of an artificial limb.

1237 Arch Street.

TRANSLATIONS.

Action of Cantharidin.—At a recent meeting of the Société Médicale des Hôpitaux (*La France Méd.*, 1881, p. 223) Dr. Cornil read a paper on this subject, in which he said that when a rabbit is given cantharidin, either by the digestive tube or by absorption through the skin as by means of a blister, symptoms of poisoning are observed in the form of cystitis, nephritis, and inflammatory lesions of the liver and lung. Twenty minutes after the ingestion of the cantharidin the following lesions are found in the cavity of a glomerulus of the kidney: a large number of white blood-globules between the envelope of Müller's capsule and the vascular tuft composing the glomerule of Malpighi, together with a granular exudation filling and obliterating the calibre of the tubuli uriniferi. At the end of an hour these lesions are characterized by the proliferation of cellules, which, though they may at first have been round, are later irregularly multangular by mutual pressure. There is therefore true catarrh of the uriniferous tubules. In the bladder similar changes take place, but the lesions are superficial: it can be seen that the irritant principle contained in the urine acts directly upon the surface of the mucous membrane. A blister allowed to remain a long time in contact with the skin may produce the same effects, and Cornil is inclined to believe that the large blisters which are sometimes placed upon the chest, and are permitted to remain from twelve to twenty hours, do more harm than good. A blister should not remain on the skin more than three or four hours.

Treatment of Ménière's Disease.—Dr. M. E. Ménière (*La France Méd.*, 1881, p. 239) has recently published a brochure on the affection described in 1861 by his father and which has since been called by his name. The disease, as is known, is characterized by three principal symptoms: 1, noises or whistling in the ear, which precede the attacks; 2, vertigo accompanied by nausea and vomiting; 3, final deafness, which is usually incurable. Without going into a full description of the disease, Dr. Ménière the younger chiefly writes of the treatment, following the plan proposed by Prof. Charcot. The patient takes the following pill at meal-times: ℞ Quiniæ sulphat., Ext. cinchonæ, āā gr. jss. Beginning with this pill to the amount of about five grains of sulphate of quinine daily, the daily amount is increased to twelve or fifteen grains. Then no medicine is taken for from one to three weeks, and then the quinine is commenced again in the dose of six grains a day and continued for a month. The effect of the quinine is to diminish the vertigo and

finally to cause it to disappear entirely, modifying also to some degree the deafness. M. Ménière does not pretend to be able to formulate a cure for a disease in which all the resources of therapeutics have thus far proved vain, but quinine has at least the advantage of reducing some of the more severe symptoms.

ORANGE-COLORED SUPPURATION.—Verneuil (*Cbl. f. Chir.*, No. 5, 1881; from *Archives Générales*) says that orange-colored pus was first observed by Lebert in pyæmic patients, and later was stated by Delon to be pathognomonic of the pyæmic condition. Verneuil formerly agreed with these authors, his experience during 1870–71 having gone to show that severe wounds and fractures from bullets, particularly in intemperate persons, were likely to give rise to suppuration of this character, leading to a fatal conclusion. Recent observation has, however, led him to different conclusions. Orange-colored pus, which owes its color to an admixture of blood-coloring matter, is also observed in slight injuries which do not result fatally, but never before the third or fourth day, and not later, in a carefully-cleaned wound. The phenomenon is only very rarely observed, and usually when it does occur is ominous rather as showing a bad constitution on the part of the patient (alcoholism, phosphatic urine, etc.) than as indicating any direct tendency to pyæmia. A number of observations are given in support of this view. Riedel, of Göttingen, who translates Verneuil's article, says that his reasoning shows that he has not observed many cases of wounds dressed with careful antiseptic precautions, or he would scarcely have met with orange-colored pus on the third or fourth day (of a complicated fracture of the leg in a diabetic patient), under cotton batting, where there was at first no fever.

LARYNGEAL AND TRACHEAL STENOSIS AFTER TYPHOID FEVER. — Kiesselbach (*Cbl. f. Chir.*, No. 5, 1881; from *Deutsche Zeitschr. f. Chir.*) reports a case where gradually-increasing dyspnœa, coming on half a year after an attack of typhoid fever in a girl of 17, made tracheotomy necessary. In addition to marked inflammatory changes in the trachea, two elongated mucous tumors subsequently made their appearance in the posterior tracheal wall. Kiesselbach supposed that these were brought out by long-continued pressure of the canula against the edges of the tracheal wound, because they were seated on a spot directly opposite the tracheal wound and outside of the point of pressure of the posterior wall of the canula. The passage of tin bougies while removing the stenosis did not affect the tumors: so Kiesselbach had a canula made which contained a fenestra on the convex side, which was closed by a plate hinged below. The plate could be placed in position by a screw, and pressed against the posterior wall of the trachea. By the pressure of this plate the tumors were gradually caused to disappear.

INCREASED SECRETION OF SWEAT OF ONE SIDE OF THE FACE (*Giorn. di Med. Mil.*, November, 1880; from *Botkin's Archiv*, Bd. v., and *Peter's Med. Wochenschr.*, No. 39).—The patient, sixteen years ago, had suffered from parotitis as a complication of typhoid fever. The abscess was incised. Shortly after he noticed diminished sensibility of the skin anterior to the right ear, and redness of the right cheek when eating, which would, at the same time, be suffused with sweat. Careful examination revealed a cicatrix of no great depth behind the right ear; sensibility of skin anterior to the right ear slightly less than normal. The tongue, when protruded, deviated a little to the right; the right angle of the mouth was slightly depressed. On placing a little acid in the mouth, the right cheek at once blushed, was covered by profuse sweat, and increased in temperature. These phenomena occurred also on simply masticating, nothing being in the mouth. The bare idea of an acid provoked the same conditions.

Atropiæ sulph. (dose not mentioned) diminished the secretion of sweat, but had no effect on the rise of temperature and the blush.

From the above, the author concludes that the secretion of sweat is independent of vaso-motor influence, and directly dependent on special sudorific centres and particular nerves which supply the sweat-glands. J. F. W.

CURE OF OZÆNA BY IODOFORM (*Giornale di Med. Militare*, October, 1880; from *Allg. Med. Central-Zeitung*, June 5, 1880, and *Allg. Wiener Med. Zeitung*, No. 30, 1880).—Dr. Letzel prescribes iodoform, mixed with gum Arabic, so as to form a smelling-powder, in the proportion of two grains of the former to ten of the latter;

from three to six of the powders to be used daily. In six cases of ozæna so treated, the result was extremely satisfactory. In two of these, which had been under various treatments for two months, this effected a cure in from ten to fifteen days. In the other four cases, which were less serious, a cure resulted in six to eight days. Before administering the powder, the nasal douche is to be used. J. F. W.

A Characteristic Symptom of Hereditary Syphilis.—Prof. Parrot (*Le Progrès Méd.*, 1881, p. 125), in a recently-delivered lecture on infantile syphilis, speaks of a particular condition of the lingual mucous membrane, first observed by Gubler and Bergeron, and described by Bridoux in his thesis (1872), and which the lecturer considers to be connected with and characteristic of hereditary syphilis.

The tongue displays desquamation, beginning at the point and the borders, and passing over the surface, the process reaching the central raphé (V *lingual*) by the time reparation is beginning at the border. The circinate form of the desquamation, and its clinical character of proceeding by rapid and successive assaults, recommencing, for example, at the point of the tongue in the newly-formed epithelium, before it has fairly begun to disappear at the base, serve to make this peculiar affection of the tongue in hereditary syphilis an entity not likely to be mistaken for any other affection of this organ.

Histological examination shows, in perpendicular section of the lingual mucous membrane, that there is a tumefaction of the cellular elements of the papillary layer, with superficial shedding of epithelium and proliferation of embryonal elements, as in the cutaneous syphilides. Another proof of the syphilitic character of this affection is found in the fact that its maximum of frequency is at the same age as that of the other syphilitic manifestations. Prof. Parrot does not regard this lesion as contagious, nor does he consider it amenable to treatment.

Extirpation of the Pneumogastric Nerve with a Tumor of the Neck—Recovery (*Giornale di Med. Militare*, November, 1880; from *Bulletino d. Scien. Med.*, October, 1880).—Dr. Lücke reports the following case. In 1878 he extirpated a colloid cancer, situated in the right submaxillary region, from a woman 29 years old. Two years later the patient returned. The disease had appeared in the cicatrix of the former operation, and a larger tumor of the same character was discovered beneath the right sterno-cleido-mastoid muscle, to which it closely adhered. No cachexia.

The tumor situated in the old scar was readily removed; the other, laid open by a longitudinal incision, was found to adhere closely to the internal jugular vein, and to be intimately associated with the pneumogastric nerve of this side. Twelve centimetres in length of the latter were removed with the cancer. Immediately following lesion of this nerve *no* change in pulse or in respiration was observed. The patient did well, and five months afterwards the pulse and respiration were found to be normal. J. F. W.

Hemorrhage in Esmarch's Process (*Giornale di Med. Militare*, November, 1880, p. 1192; from *Gazette des Hôpitaux*, No. 107).—M. Nicaise has made some observations on the temporary ischæmia and subsequent hemorrhage after the use of Esmarch's bandage in amputations. To obviate this difficulty, the writer proposes, after the operation is completed, and before removal of the bandage, that sponges be applied to the surface of the wound and the flaps drawn over these in such a manner as to produce a compression over the whole of the wounded area. Then the bandage may be taken off. When the skin has resumed its natural color, the flaps should be raised, the sponges taken out, and any bleeding vessel ligated.

Treatment of Keloid by Scarification.—Dr. Vidal presented before the Société de Chirurgie (*Bull. Gén. de Thérap.*, vol. i., 1881, p. 136) a man of 48, suffering with keloid and under treatment by scarification. Emplastrum de Vigo, douches, etc., had been of no avail, and the tumor gave rise to considerable pain, for which multiple scarifications in parallel and transverse lines were practised. To M. Vidal's surprise, the tumor became very much reduced in size, and the success gained in this case encouraged him to try the same procedure in other instances, which also resulted favorably.

Interesting Case of Smallpox in a Fœtus (*Giornale di Medicina Militare*; from *Bulletino delle Scienze Mediche*, September, 1880).—At a meeting of the Academy of Medicine, in Paris, Labbé

presented for Vidal a fœtus which had been born alive covered with smallpox pustules. The mother had been vaccinated when a child, and never had the disease. The pustules at time of birth seemed to have reached their seventh or eighth day; larger than the pustules of ordinary smallpox; well umbilicated. The child died in a few hours.

At about the time of conception of this offspring the father was suffering from semi-confluent smallpox.

PURULENT INFECTION IN TYPHOID FEVER—OBSERVATIONS OF DR. GANDY (*Giornale di Med. Militare*, November, 1880; from *Journal de Méd. et Chirurg. Prat.*, November, 1880).—Metastatic abscesses generally occur in the lungs, less often in the spleen, and then in the liver. Purulent infection generally follows an external eruption, but it is not necessary. This does not usually manifest itself before the third week, during the reparation of the ulcerated intestinal follicles, and it may be delayed until the second month. An eruption of ecthymous pustules should therefore be carefully noted.

Metastatic abscesses of the lungs can be recognized by auscultation and by dyspnœa; of the liver, by the jaundice. Chills, a rapid rise of temperature, often profuse sweats, the state of the tongue, diarrhœa, eruptions, such as of boils, or miliary, ecchymoses, all confirm the diagnosis.

Believing that infection is due to the absorption of purulent matter from intestinal ulceration, the writer recommends phenicated laxatives. Dr. Bouchard advises a mixture of glycerin and carbon, or the following: creasote, gtt. ii; rum, 120 grammes; phenic acid, 25 centigrammes; salicylic acid, 1 gramme. J. F. W.

THE DERIVATIVE VASCULAR ACTION OF LARGE DOSES OF IPECAC IN PNEUMONIA.—Dr. Verardini (*Jour. des Sci. Méd. de Louvain*, 1881, p. 100; from *Bull. delle Sci. Med. de Bologna*), basing his investigations on those of Pechollier, Peter, and others, gives ipecac to his pneumonia patients in thirty- to eighty-grain doses. He has not found it useful in hæmoptysis, but it appears to be valuable in diminishing pulmonary hyperæmia and congestion, and to be susceptible of producing a sufficient degree of ischæmia to ameliorate considerably the condition of patients suffering with pneumonia. He formulates his conclusions as follows. 1. Ipecac is harmful in hæmoptysis. 2. It is useful and well tolerated in pneumonia. 3. The ischæmia induced in the lungs under the influence of ipecac appears to be the result of its reducing vascular tension. 4. The beneficial effect of the drug is not dependent upon the nausea and vomiting which it produces, but to this reducing action. 5. This action of ipecac has been shown by experiments made by the author.

TO FACILITATE THE REMOVAL OF PLASTER-OF-PARIS BANDAGES.—Dr. Mooy, of Holland (*Jour. des Sci. Méd. de Louvain*, 1881, p. 93) recommends that before the application of the plaster bandages a band of flannel should be laid up and down the limb at the point where the plaster bandage is to be divided. This is to be doubled, and saturated with unboiled linseed oil to which has been added five per cent. of carbolic acid. At the end of a few hours the bandage is found to be impregnated with oil, as is testified by the yellow color which it assumes along the course of the flannel band. Dr. Mooy adds that the flannel band is not absolutely requisite, since the same object may be gained by oiling the plaster bandage from the outside, either after it has dried or while it is being put on.

DELIRIUM TREMENS CURED BY CANNABIS INDICA AFTER THE FAILURE OF OPIUM AND CHLORAL.—Dr. F. Villard (*Le Progrès Médical*, No. 8, 1881) gives a case in which eighty grains of chloral were given within ten hours without producing rest, and then extract of opium to the amount of two to three grains, also without result. Extract of haschisch to the amount of two grains every hour until eight grains had been taken gave relief. This dose, which is about four times that recommended in the books, was given because, as Dr. Villard says, a smaller dose—or, at least, too small a dose—would have produced a stimulant instead of a narcotic effect. He lauds the effect of the cannabis very highly.

SACCHAROCARBONATE OF IRON.—M. Ch. Tauret (*Bull. Gén. de Thérap.*, vol. i., 1881, p. 127) has discovered a crystallizable compound of carbonate of iron and sugar, to which he gives the above name. It is found in the interior of Vallet's mass after two years, and contains eighteen per cent. of carbonate of iron. It is easily soluble in feebly acid solutions.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, APRIL 9, 1881.

EDITORIAL.

THE COUNTY MEDICAL EXAMINERS.

AT the meeting of the Pennsylvania State Medical Society held in Pittsburg, May, 1878, Dr. A. M. Pollock, of that city, offered a resolution which required all county medical societies, represented in the body, annually "to elect three members, to be called medical examiners, whose duty it shall be to examine all applicants for admission as students of medicine under the tuition of members of this Society; and said committee shall withhold their certificate from any applicant unless he is of good moral character, possess a good English education, and a sufficient knowledge of Greek and Latin to enable him to pursue his studies with advantage. And no member of any county society shall receive any person as a student of medicine unless he presents a favorable certificate from this committee." After a good deal of discussion, this resolution was adopted and entered upon the minutes.

At the meeting of the Society held at Altoona, last May, it was officially made known that a large number of county medical societies had failed to comply with the resolution, and a second resolution was carried by a large majority, that no delegate should be received at the meeting of 1881 from any county medical society which had not "complied with the law requiring the appointment of medical examiners." The Philadelphia County Society has, we believe, refused to so comply; and the interesting question arises, Will its delegates be excluded? To our thinking, it is perfectly plain that they will not be, and cannot be.

The constitution of the Pennsylvania State Society avers (Article III., Section 1), "The Society shall consist of delegates and permanent members." (Section 2.) "The delegates shall receive their appointments from the county societies." (Section 3.) "Every delegate from a society not in delinquence, before admission to a seat in the Society, shall produce a certificate of delegation signed by the president or secretary of his county society, and shall sign the rules and regulations." What the words "rules and regulations" mean is nowhere explained, either in the constitution or the by-laws, and it is probable, therefore, that no legal meaning attaches to the phrase. It is plain, however, that they must refer to something personal to the delegate, and not to anything affecting directly the county societies, since the constitution gives the society the right to representation, provided the annual dues have been paid, and any rule or regulation depriving the county society of such right would be unconstitutional, and therefore null and void.

Further argumentation does not seem necessary. It is plain that the resolution of 1881 previously quoted is unconstitutional, that its passage was a legislative blunder unworthy of those who adopted it, and that if the Society desires to enforce the provisions of the first resolution (that of 1878) it must do so by altering the constitution in the manner prescribed in Article VIII. of that instrument. A second and very important consideration which now arises is, Is it better for the State Society to attempt coercion in the future?—*i.e.*, to alter the constitution according to constitutional methods, and then exclude defiant county medical societies.

It is plain that if it were possible to keep the uneducated from entering the profession the gain, both to the profession and to the country, would be great. It is also plain that the enforcement of such a

resolution as that proposed would be very influential in leading young men to educate themselves primarily before attempting to study medicine. The end is most desirable; the method of obtaining it is efficient, provided the State Society has the power to enforce its own will.

That our State Society yearly adds new rivets to the bonds with which it unites practitioners of medicine into a corporate body is unquestionable; and it does seem to us as though this great body might now begin to exert its powers. The present outlook indicates that if it does there will be a trial of strength between it and the Philadelphia County Medical Society, led by a few men whose vested interests are not exactly those of the profession. Do our rural brethren doubt as to who, under these circumstances, would, in the long run, win? A change of leadership might result in our city councils; or the counsels might change, the *personnel* of the councils remaining the same. Something would give way, provided the State Society acted firmly, wisely, and not overbearingly,—acted, in other words, in such a way as would conform with the self-respect and sense of justice of a large majority of its members.

The resolution of Dr. Pollock should, however, before being put into the constitution, be modified in obedience with the maxim that all statesmen recognize,—namely, to proceed by short steps. Neither the general community nor the general profession are prepared to require a knowledge of Latin and Greek of the candidate for medical honors. A man may be highly educated in science and know neither Latin nor Greek: indeed, it is doubtful whether the study of Greek ought even to be encouraged, when modern languages and physical sciences offer so much opportunity for useful work as they do at present. The standard-bearer who rushes away ahead of his regiment dies and accomplishes nothing: such is the natural fate of courage without brain. The useful flag-carrier is he who so slowly bears it onward that the regiment does not know when to forsake its standard, and with it swarms over the enemy's entrenchments or lines. We hope that at the approaching meeting of our State Society some one will offer an amendment to the constitution requiring the appointment by the county societies of examiners, who shall see that every would-be student of medicine has received a good English education and has some elementary knowledge of the physical sciences. If this is finally adopted, we can hope for good to be achieved.

UNDER the name of the *Medico-Chirurgical College of Philadelphia* a new medical school has been born. To our thinking, it is an ambitious, even if puny, youngster. Even the babe in the cradle is beginning to spew at the mention of an eighteen months' course of medical study! The requirements, fees, and announcement seem to be modelled after those of the University. Where the pap to sustain the budding life is to come from is not plain to an outsider. A two years' college with low fees might, we believe, be made a pecuniary, although discreditable, success in this city; but what sufficient inducements are offered to students between the pink covers before us we are unable to discover. As there appear to be no trustees in this new venture, the faculty is untrammelled to do what it likes, and when the pressure of unpaid bills, rent in arrears, etc., is felt, we fear lest Bellevue shall have an imitator.

It is also stated that a new medical college has been started in Pittsburg. We have seen no announcement, but suppose the statements are correct. Poor Pennsylvania! *O tempora! O mores!*

PROFESSOR CHARCOT is said to have received recently twelve thousand roubles (about nine thousand dollars) for a consultation visit to Moscow.

LEADING ARTICLES.

THE CATGUT LIGATURE.

THE catgut ligature appears likely to play a not unimportant rôle in the surgery of the future. Its advantages over the old-fashioned silk ligature are, in some respects, so decided that its advocates, undeterred by occasional failure, continue to push its claims and to experiment continually with a view to remedying its defects and improving its good qualities. The subject has, indeed, been regarded as so important by Prof. Lister that he has taken it as his text on the occasion of his installation as President of the Clinical Society, and has devoted his inaugural address* to an examination into the qualities of this ligature and the methods of its improvement.

Contrary to what was originally apprehended with regard to the catgut ligature, it is found to disappear entirely, even when suppuration takes place in the wound. It does not, when well prepared (unless under exceptional circumstances), come away like a little slough, as was feared. Now and then, however, in the experience of some surgeons, the knots of the catgut ligature have given way, leading to severe hemorrhage; or suppuration around the ligature has taken place, with great delay in the patient's recovery. In the hope of preventing in some way these untoward results, various experimenters, and among them Mr. Lister, have sought for some method of making the catgut ligature not only effectually strong, but also unirritating.

Animal ligatures of another kind have recently been suggested by Mr. Barwell, —namely, strips of the mingled yellow elastic and unstriped muscular tissues which constitute the arterial wall, obtained by spirally cutting the aorta of one of the larger animals. The chief objection to these ligatures is the difficulty of obtaining them: for the average surgeon's use so unusual a material is not convenient. Catgut, on the other hand, may be obtained all the world over in abundance. As it comes from the maker, however, it is entirely unfit for the purposes of the surgeon. It becomes soft and pulpy soon after it has been placed in blood-serum. A piece of catgut placed in warm serum from the blood of a cow assumes this condition within half an hour. It is essential, in order to fit the catgut for the purposes of the surgeon, that it be altered in its physical constitution so as to be no longer liable to this softening effect by the serum of the blood. It is a remarkable fact that blood-serum softens catgut more readily than warm water does; so that we cannot test the endurance of catgut by steeping it in warm water. Mr. Lister believes that his method of preparing catgut answers the purpose very well, provided certain conditions are complied with in its preparation. However, the process is a tedious one, requiring at least two months to make the ligature at all trustworthy. This is a serious objection, for the surgeon who has not prepared the catgut himself and kept it for a long time is at the mercy of the person who supplies it, and the person who supplies it, not being aware of the enormous importance of the question of time, if he happens to have run out of that which has been long prepared, will sell what has been only a short time in the preparing-liquid and is, in consequence, altogether untrustworthy.

Mr. Lister brings forward a new method of preparing the catgut ligature which is the result of experiments made during his leisure time for the past two years, and the account given in his lecture is interesting as showing the amount of careful investigation requisite to understand even so simple a thing as the manufacture of catgut. He has followed up the process of its manufacture from beginning to end, and, having first shown what the material is with which we have to deal, he goes on to speak of the necessity that the catgut should be "seasoned." But by the ordinary process this involves, as has been said, a long period of preparation. It is desirable that the period of preparation should be short. Then it is essential that the catgut should have proper strength, so as to bear any reasonable strain that the human hands can put upon it in the thicker forms, —as when used, for instance, in such cases as the circumferential ligature of the thyroid vessels, in the removal of a goitre, or for securing the pedicle in ovariotomy. And it is not sufficient that it should be strong to start with: it is easy to get catgut strong in the dry state: it is necessary that it should be strong after steeping in blood-serum awhile. It would be a very sad

* Lancet, vol. i., 1881, p. 201.

thing for the ligature of an important vessel if the residence of the catgut among the tissues soaked with serum for a few minutes, or even for a quarter of an hour, should render the catgut so soft that it should give way or permit the knot to slip. It is necessary that a knot tied upon it should hold with absolute security.

That catgut as at present employed does not fulfil this condition seems probable from the report of cases under the care of Messrs. Treves and McCarthy read before the Royal Medical and Chirurgical Society at a recent meeting.*

In Mr. Treves's case, which was particularly interesting, the right carotid in a case of aneurism was ligatured above the omo-hyoid with antiseptic precautions, and the wound healed by first intention. A month later the third part of the subclavian was ligatured, but, through some accident, suppuration took place. The patient dying one hundred and eight days after the operation, the ligated vessels were examined. In the region of the carotid no trace of wound could be discovered even in the carotid sheath, and every trace of the ligature had disappeared. No constriction could be seen in the vessel; its external outline was unaltered, and the seat of ligature was indicated only by a faint, transverse, bluish mark on the vessel, due apparently to the thinness of the arterial coats in that direction. The vessel was found to be patent, but to be narrowed at the seat of ligature by a kind of perforated diaphragm leaving a central aperture about a line and a half in diameter. This diaphragm was formed by the incurving of the ruptured ends of the middle coat. The ligated portion of the subclavian artery was found imbedded in a very firm mass of inflammatory material, and was occluded for three-quarters of an inch and entirely obliterated for half an inch.

The appearances here presented certainly seem, to us, to point to early solution of the ligature thrown around the carotid before inflammatory adhesion and the organization of the clot could have time to occur. Indeed, it would almost appear that ligature by catgut as heretofore performed must have been hap-hazard, and it seems almost wonderful that no cases of secondary hemorrhage have been reported. On the other hand, the opposite fault of too great toughness and resistance to the solvent action of the tissues is the commoner, thus resulting in suppuration, with the final rejection of the unchanged ligature, as occurred incidentally in a case reported by Dr. Wetherill in the present number of this journal.

Mr. Lister claims that by his new method of preparation the catgut ligature may be rapidly made ready for use, and that it may be made of just the desired degree of toughness and resistancy. His method is as follows. One part of chromic acid is dissolved in four thousand parts of distilled water, and to the solution are added two hundred parts of pure carbolic acid or absolute phenol. Minute as is the quantity of chromic acid, it exerts, when in conjunction with carbolic acid, a very powerful effect upon the gut. The first effect of the addition of the carbolic acid to the chromic solution is to change its pale yellow to a golden tint. Later, a gray precipitate falls; but this does not occur when the catgut has been immersed in the solution. As soon as the liquid has been prepared, an equal weight of catgut is introduced into it. If the proportion of catgut is too large, it runs the risk of not being prepared; if too small, it may be over-prepared. At the end of forty-eight hours catgut steeped in such a solution is sufficiently prepared. It is then taken out of the solution and dried, and when dry is placed in one-to-five carbolic oil; it is then fit for use, and will not soften in serum.

Such is the new method of preparing the catgut ligature, which is considered of such importance by Mr. Lister that his address is chiefly concerned with this subject. He also gives useful information regarding the preparation of the catgut itself, which we have not space to describe. As to the strength of the gut thus prepared, a bit two and two-thirds hundredths of an inch in diameter, after soaking in serum for half an hour, stood a strain of eleven pounds four ounces. Ten pounds, Mr. Lister says, represents the utmost strain that his arms are able to put upon a cord. The ligature is thus seen to possess ample strength.

With regard to the behavior of the new catgut among the tissues, Mr. Lister's experience is against the view that catgut is dissolved by the serum. Bits of it exposed to the action of fresh or of putrid serum

* Lancet, vol. i., 1881, p. 251.

remain undissolved. Catgut introduced into wounds is not dissolved by the serum, for when used as drainage those parts beyond the vital influence of the tissues remain unchanged, while those within gradually disappear. Microscopic examination of improperly-prepared catgut which has been in the living tissues shows it to be diminished in size and infiltrated with young growing cells. Good catgut, however, is merely eroded superficially, and is found to be thus gradually dissolved away, retaining its firmness to the last. Mr. Lister compares the absorption of the catgut to that of dead bone in a granulating wound. Erosion, however, does not begin at once,—indeed, not for a fortnight, according to Mr. Lister; and then it proceeds slowly, especially in the larger sizes of catgut.

Dr. MacEwen,* quite independently of Mr. Lister, has also devised a somewhat similar chromicized catgut, which was described in a late issue (March 12) of this journal.

CORRESPONDENCE.

LONDON LETTER.

IN a recent letter I considered the subject of the presence of lithates in the urine of cardiac dropsy, and their significance. They were regarded as indicating the inability of the liver to perform its function of the oxidation of albuminoids. The subject of the assimilation of albuminoids will now be further considered in their relation more especially to tissue-nutrition. This is a matter the practical importance of which is daily making itself more and more felt as physiologists are clearing up the functions of the liver. We see malnutrition in various forms. From lack of lime the bones are ill nourished, as seen in rickets; from want of sufficiency of fat in the tissues we get tubercle; when children cannot digest starch general malnutrition results; and when the albuminoids are deficient in the blood we find tissue-nutrition defective, and this is often very apparent in the heart and the diaphragm,—two muscles ever in action, and therefore feeling changes in nutrition very keenly. Strange it is that, with so many observers sweeping the field of physic for a subject to study specially, no one will look at the diaphragm; yet it must be affected by all conditions which interfere with the proper nutrition of muscles. The chest is examined with various instruments of precision, is percussed, auscultated, measured, and inspected; the calibre of the air-tubes, the question of the contraction of various areas, of pulmonary collapse,—all and everything seem to be examined except the condition of the diaphragm, whether it be fatigued or ill nourished, or otherwise. Yet surely much of the dyspnœa we see is due to failure in muscular fibrillæ of the diaphragm, just as palpitation is due in certain cases to exhaustion of the muscular structure of the heart. Starvation, then, of these two important muscles is one of the outcomes, and a conspicuous one in some cases, of the failure of the digestive organs to assimilate properly the albuminoids of our food.

It was shown in a recent letter that in digestion the proteids are changed into peptones by a process of hydration, and that when the peptones have, by so being made soluble, passed into the blood, they are dehydrated again. What is the precise history of albuminoids in the body until they reappear as the early histolytic products—leucin, tyrosin, creatin, and creatinin, passing on to bile acids and urine solids (the forms in which nitrogenized waste finds its way out of the blood)—is what we do not know, though it is what we very much wish to know. We have excellent grounds for holding that the liver has much to do with the furnishing of these albuminoids to the blood as required for interstitial digestion,—*i.e.*, the feeding of the tissues from the blood, as differentiated from feeding the blood from the food. The blood is fed first, and then from it the tissues. The relation of liver-disturbance to imperfect tissue-nutrition is a matter not nearly as much understood as it ought to be. The malnutrition which arises when the liver becomes enlarged secondary to mitral disease, the presence of lithates in the water, and the pale stools often seen, are common clinical phenomena. Yet it is quite usual, under such circumstances, to cram the patient with food largely albuminous, under the belief that such food is strengthening. So it would be if it were digested; but, then, it is not. On a dietary of fish and milk-pudding the patient would be much better nourished, because some of this food is fully and properly digested, while on a heavy meat diet the liver is simply overwhelmed and can digest none of it thoroughly. Of course the patients or their friends remonstrate at first against the insufficiency of the dietary; but the results calm them. When this mal-assimilation impairs the tissue-nutrition, and the heart and diaphragm feel the starvation, then a distinct series of symptoms, objective and subjective, are set up. These are the evidences of a feeble heart, impaired impulse, indistinct sounds, a readily-compressible pulse, palpitation with dyspnœa on effort, cold extremities, and tendency to syncope. The patient feels breathless upon effort, sighs, has vertigo, is depressed, is unable to think clearly or to

* British Medical Journal, vol. i., 1881, p. 150.

command his thoughts; the memory is defective; there is an absence of energy, and work becomes distasteful; there is irritability of temper, for the brain is not only ill fed, but is poisoned by the products of mal-assimilation. We all know the sense of energy, of buoyancy of spirits, given by a dietary rich in animal food when the normal products of healthy assimilation are present in the blood in fair quantity,—that sense of energy the Anglo-Saxon race so dearly loves. But when the products are abnormal, then there are the negative loss of proper pabulum and the positive symptoms of toxæmia,—of abnormal matters in the blood. Between the two the brain is at once starved and poisoned; it cannot work properly; the mental processes are interfered with; all seems gloomy and hopeless; there is more or less developed panphobia; everything wears its worst aspect; the whole field of life, indeed, seems spread over with Indian ink. The patient feels miserable and apprehensive, dreads that he or she is the victim of some occult insidious mortal disease, and is haunted with dread and suspicion. The vaso-motor system is disturbed, and alterations in the calibre of the arterioles lead to a damming of the blood in the arteries; the heightened arterial tension offers an obstacle to the ventricular contraction, and there are attacks of imperfect angina pectoris. Personally, I have not encountered actual syncope in these cases, but the patients often feel very like fainting. The *tout ensemble* of the case is closely like that of the fatty heart.

But then the fatty heart has quite a different set of surroundings, and it is this environment which must guide us in our diagnosis. There are the evidences of degeneration elsewhere, the greasy unctuous skin, the gray hair, the tortuous temporal artery, telling of atheromatous change, general and extensive, and the arcus senilis,—indeed, the general aspect of age, of senility, ordinary or premature. Now, of course, there may be such concomitants and yet the feeble heart may not after all be fatty. A case which was under my care many years ago forces itself upon my consciousness. There were the evidences of cardiac feebleness, objective and subjective, in an old man near eighty years of age. I feared fatty degeneration, and kept him very quiet. But in a few weeks he began to improve; his pulse grew steadier and less compressible; the heart-sounds became more distinct, and in time the symptoms and signs were those of a fairly hypertrophied ventricle, with a distinct aortic obstructive murmur. The old gentleman lived several years after this, but what the end was I do not know, not being in the neighborhood at his last illness. Here there was decided "heart-starvation," closely simulating fatty degeneration of the heart-walls, in a person where such decay was quite likely to be the case; and cases of similar character have been met with not infrequently since. The associations of these cases of "heart-starvation" are either work during the hours ordinarily devoted to sleep, or disturbance of the liver. Now, in a very thoughtful article recently in *The Practitioner*, Dr. Lauder Brunton, F.R.S., the editor, has described "Indigestion as a Cause of Nervous Depression." Here he has shown how the nervous system becomes enfeebled from the non-removal of waste, the product of that combustion which accompanies and is the physical factor of all energy, while at other times the depression is due to the presence of products of digestion not usually found in the general circulation. Indeed, the whole article demonstrates in a very instructive manner the aid physiological research can give to practical medicine. Anatomical research, without, as well as with, the microscope, has been rather depressing than otherwise, tending to demonstrate lesions against which the healing art is powerless. But physiological research is of the most inspiriting character, aiding us much in our efforts to be of use to our fellow-creatures. The products of disordered digestion are then nerve-depressants, and consequently we see the nerve-centres are depressed, as well as ill fed, in common with the rest of the tissues. The failure of power in the heart brought about by fatty degeneration of its structure is closely simulated by this palsying effect of the products of mal-assimilation. A heart not in its pristine structural integrity will feel the effects of such depressant agents even still more. Many a case of heart-starvation is diagnosed as fatty degeneration, and if the dietary and treatment be not looked to the patient may actually sink from asthenia, sheer debility of the great centres. Some time ago I saw a case which bore all the evidences of a heart failing from fatty degeneration, yet its subsequent history makes me feel very doubtful as to the absolute accuracy of the diagnosis. Of course it is impossible to be sure about what is actually going on in the fibrillæ of the heart, whether there was pure "heart-starvation," or whether there was not some actual degeneration in certain fibrillæ, and that repair is taking place by the development of those embryonic muscular fibrillæ found within the sarcolemma which undoubtedly take the place of effete fibrillæ in the acute softening of the heart so common after sharp fevers. Whether or not, there is no manner of doubt about the improvement in the case, the recovery of power, the disappearance of the restlessness, with failure on effort, the dyspnœa and palpitation on exertion: indeed, there is general improvement of the patient. Now, here, the aspect at one time looked like that of fatty degeneration, and so it was regarded by other physicians who saw him previously to myself. Yet I am beginning to question the accuracy of our diagnosis, and venture to think

we may all have been mistaken after all. Unless the coronary arteries are so atheromatous that their lumen is reduced below that possibly compatible with the nutrition of the tissues of the heart, or their orifices are blocked with an atheromatous tubercle, I must confess that there does not seem any absolute impossibility of such repair taking place by the development of these embryonic fibres, as seen in the plates in my work on the "Diseases of the Heart," copied from the work of Rindfleisch, and which are most suggestive and incitive. The whole subject is most entrancing, especially now when we are beginning to be more familiar with the heart as a muscle, influenced, like other muscles, by the laws of nutrition and repair. Valvular diseases are now generally well recognized, but the varying conditions of the muscular walls of the heart are far, very far, from being well understood. We all are familiar with cases where slight signs of disease in the heart are quickly followed by fatal consequences. Are we anything like so familiar with the opposite class of cases, where the diagnosis and prognosis have been disproved by the work of time, and the condemned patient has lived to have his jibe at his doctors, perhaps even to follow them to the grave, while he lives on working and feeling well? These cases are not so rare as might be imagined. We know the danger of some matters about the heart. Shall we after a while begin to have some glimmerings of acquaintance with repair from conditions in which fatty necrosis has been closely simulated, nay, has even perhaps existed to some extent?

Now, the importance of the recognition of "heart-starvation" is not confined to clearing a number of cases of cardiac asthenia from the haunting suspicion of fatty degeneration in persons of middle age, and so saving much human misery which would otherwise exist. It has wider relationships. It enables us to recognize the precise nature of some otherwise troublesome cases of pronounced dilatation coming on quickly in persons previously quite well. For instance, about a year ago I was called in consultation to see a woman of thirty-six, a strong, healthy, vigorous woman, who had charge of a family of children all of whom had scarlet fever in turn. Night and day she assiduously tended her little charges, her affection for them causing her to stick to her duties until the last one was convalescent, when she was thoroughly "knocked-up" and had to go home to be nursed herself. Her mother, a hale woman of eighty, was bustling about, waiting upon her, showing that she came of a long-lived race, retaining their energies till very advanced age. The father I did not see. Here the heart had yielded under the tremendous strain put upon its walls, weakened and ill fed; for she gave herself no time for food, but just kept herself up by tea, and scarcely slept. She felt much better for the confinement to bed, and improved considerably under a course of digitalis and iron. I gave a very favorable prognosis. The last time I saw the medical attendant he told me she was dead. She had been taken into some hospital; but he did not know the particulars. It seems most likely that she sank under some intercurrent affection, as, with her family history, recovery was apparently only a question of time. "Heart-starvation," the consequence of loss of sleep and little or no food, may result in dilatation, which I think is more apt to be the case with women. At other times there is no perceptible increase in the area of cardiac dulness, and the symptoms are those of asthenia, only closely simulating the signs and symptoms of the fatty heart, and the real state cannot be distinguished by physical examination alone.

Now, what are the indications furnished for the management of these cases? In the first place, rest, as absolute as can be attained, must be secured. Any demand upon the heart would be very likely to originate acute dilatation. To reduce the demand upon the heart is clearly the first thing to be done. The next is to look to the assimilative processes. The bowels must be regulated; if there be lithates in the water, pale stools, and a bitter taste in the mouth, then an hepatic stimulant—sulphate of soda, ipecacuanha, iridin, or euonymin—must be added to the laxative employed; and the patient must be dieted. The question of diet is one of the extremest urgency in these cases. A small quantity of easily-digested albuminoids, fish, poultry, game, or milk-puddings, gives much better results than a heavy meat dietary, none of which is thoroughly digested. This is a matter upon which insistence is requisite. We must feed the patient so as to feed the blood, and from it the tissues. A little readily-digested food is thus properly assimilated, and then the nutrition of the albuminoid body-tissues follows. If the digestion is imperfect, it is easy to give a teaspoonful of the liquor pancreaticus advocated by Dr. William Roberts, in a solution of bicarbonate of soda, about two hours after a meal, at "the tail of the digestive act." This line of management will give good results. I do not know whether the dietary is as much attended to in the United States as it is here in England, or not. But with us we find in an appropriate dietary a great factor of the successful treatment of cases of malnutrition, no matter whether it is "heart-starvation" from imperfect assimilation of albuminoids, or "nerve-exhaustion" from the digestive powers being unequal to the building up of the complex fat "lecithin" containing nitrogen and phosphorus, or anæmia from their inability to construct hæmoglobin, a very complex body indeed, for the red corpuscles. The system may be equal to producing ordinary albumen

and fat, and yet be unable to build up these complex bodies. The subject of nutrition, especially "interstitial digestion," is one of which we are only beginning to conceive the practical importance, but a wide vista seems opening up. I have some emulsions of oil before me as I write, of considerable promise.

J. MILNER FOTHERGILL.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

AT a conversational meeting of the Society, held at the Hall of the College of Physicians, Philadelphia, January 12, 1881, Dr. Albert H. Smith, President, in the chair, Dr. Frank Woodbury read a paper on "Some Clinical Phases of Poisoning by Alcohol" (see page 417).

DISCUSSION.

Dr. E. T. Bruen noticed the similarity between the brain-symptoms of chronic alcoholism and those of ordinary chronic meningitis, and inquired regarding the differential diagnosis. He had observed in many cases of alcoholism irregular rises in temperature, and after death thickening of the membranes, adhesion, and other evidences of inflammation.

Dr. R. S. Huidekoper related a case of idiosyncrasy in regard to the effects of alcohol. While on a boating-excursion, a young man took within fifteen minutes a couple of drinks of whisky amounting to less than two ounces in all. In a short time his face became much flushed, and suddenly grew very pale; he then fell into a state of complete alcoholic coma. It was nearly six hours before he regained consciousness. It was subsequently ascertained that this gentleman had suffered on previous occasions from similar small quantities of alcohol.

Dr. John B. Roberts said that the physician has better opportunities of recognizing the effects of alcohol, and of studying the relations of cause and effect in alcoholism, than in many other diseases. The question whether or not alcohol is a true food is a very important one. Dr. Parkes, in his report of the issue of a spirit ration in the Ashantee campaign, arrived at the conclusion that for forced marches of short duration, especially at night, the troops did better on a rum ration, but that their energies were depressed the next day and they were correspondingly incapacitated from sustained effort; but on an extra ration of beef-tea their efforts could be kept up to the maximum for several days, with less fatigue.

Delirium tremens is not always due to deprivation of alcohol, but in many cases it is due to cerebral anæmia from want of food. It is not, therefore, to be regarded as an indication to return to alcohol-drinking so much as it is to administer nutritious food. In many cases tonics can be substituted for spirits, and the cases recover as well or even more readily than with whisky.

Dr. Charles K. Mills said that he regarded the remarks of the lecturer upon the differential diagnosis of acute alcohol-poisoning as of considerable importance. His own experience had been that it is very difficult to make an exact diagnosis of alcoholic coma. The points mentioned in the paper were good, but they would be insufficient sometimes to decide the character of a case. Hemiplegia, for instance, is not always present in apoplexy. He had seen a case lately where a large hemorrhage had broken down part of the cerebral hemisphere and the septum between the ventricles, both sides of the body at the time of examination being about equally helpless. In another case where coma was present it was difficult to decide whether it was uræmic, alcoholic, or apoplectic. The man was brought into the hospital ward insensible. Respirations were very slow,—indeed, only about one-third of what they should have been in health. The skin was so cold that surface-temperatures could not be taken with ordinary instruments, and in the rectum the temperature was under 90°. Complete paralysis existed, not hemiplegia. There was no odor of alcohol on the breath; no appearance of injury to the head; no swelling of the feet and legs. Albumen was present in the urine. Upon making the autopsy, cerebral œdema was found; a large amount of fluid was present between the pia mater and entire convexity of the brain; it was also increased in the ventricles. The kidneys were degenerated. It was a case of uræmia.

While in exceptional cases a positive diagnosis could not be made, still the presence of an alcoholic odor of the breath, the chemical examination of the urine, the surface-temperature, and the paralytic symptoms would largely guide us to a correct conclusion.

In reference to the treatment of acute and chronic alcoholism he endorsed the remarks of the lecturer. He had found in coma and threatened collapse that the expedient of administering belladonna or atropia hypodermically might be a most important one, and it was one that was not as largely used as it should be. It is especially valuable where death is threatened by respiratory paralysis. He had used atropia in this manner, combined with electricity, as a peripheral stimulant. He mentioned the following case, although not one of alcoholism. A patient had been almost constantly vomiting for nearly three weeks, with extreme depression of respiration, the movements being reduced to four or five in the minute. Under the use of electricity to the limbs and atropia hypodermically, she rallied from this condition and lived four or five weeks, when she had another

attack, in which she died. It was subsequently found that she had a cerebellar tumor. In nearly all the cases that he had examined of chronic alcoholism he had noticed changes inflammatory in character, especially in the pia mater; a peculiar opacity was usually present; but the pathological condition was not identical with that of meningitis from ordinary causes. He had also seen pachymeningitis in drunkards.

Dr. W. H. Parish, as illustrating the difficulties of diagnosis, referred to a case which had occurred at the Philadelphia Hospital. A man, who had been several times previously under treatment for a similar condition, was admitted into the drunk ward, moderately intoxicated. After some hours' rest he apparently recovered, and was employed about the institution for several days. One night he was taken with what was supposed to be mania dependent upon alcoholism, and he was treated for several days for delirium tremens. His death occurred shortly afterwards, and at the post-mortem examination the blade of a pen-knife was found imbedded in the middle of the brain, having entered through the squamous portion of the temporal bone; the whole blade was there; it had led to extensive abscess, meningitis, and cerebritis. The symptoms throughout had been apparently those of delirium tremens.

Dr. Bruen said that he had seen cases in which he should have liked to have something upon which to base a decided opinion as to the existence of meningitis as a complication; for in some cases meningitis had been found after death, although he had not been able to distinguish the symptoms from those of ordinary delirium tremens during life.

Dr. Woodbury, in closing the discussion, said that the clinical phases of alcohol-poisoning offered an interesting and important topic for the practitioner, on account of the frequency of their occurrence and their usually urgent character. He had been surprised, upon reviewing the proceedings, that this subject had not within the last few years been brought up before the Society for discussion. On account of its comprehensive character he had only been able to sketch, and with rather a free hand, some of the rough outlines of the more prominent considerations springing out of the subject which he had submitted in the paper of the evening. In regard to the diagnosis of chronic meningitis he agreed with a previous speaker, that in simple cases occurring independently of alcoholism due attention to the symptoms would be sufficient to distinguish the case from ordinary delirium tremens. The previous history—of syphilis, sunstroke, blows upon the skull, or, rarely, rheumatism, with localized pain in the head of severe character, exacerbations of fever and delirium, with vomiting, but with onset less sudden than delirium tremens—may serve to distinguish such cases. When the conditions coexist, the use of the surface thermometer to the scalp would probably indicate the seat of the inflammatory process and aid in the diagnosis. If the patient complains of intense headache, and there is a decided febrile movement, frequent vomiting, and irregularly contracted pupils, the view of the coexistence of meningitis is tenable, and is at least highly probable. The fact that this complication is a frequent one has already been dwelt upon.

In concluding, he stated that although a man under the influence of a full dose of alcohol would generally succeed in sleeping off its effects, if kept warm, yet he felt that science—which shows alcohol to be a respiratory poison and capable of destroying life—protests against allowing a man in a condition of coma to sleep with an unknown amount of alcohol in his stomach waiting to be absorbed. When received into a hospital or station-house, such a patient should have his stomach emptied by an emetic or by the pump, and have a pint of hot coffee administered before allowing him to sleep; at the same time the skull should be carefully examined for injuries which may require prompt surgical attention.

PHILADELPHIA ACADEMY OF SURGERY.

STATED MEETING OF FEBRUARY 7, 1881.

DR. D. HAYES AGNEW, Vice-President, in the Chair.

ATROPHY OF MUSCLES AND BONES CONSECUTIVE TO CLUB-FOOT.

DR. T. G. MORTON presented two patients showing atrophy of the limbs from club-foot, in substantiation of his statement, made at a previous meeting, that the bones were diminished in acquired and congenital talipes, and that the affected leg never kept pace with the sound one.

D. C., aged 7 years, at the age of 20 months was suddenly seized with infantile palsy which involved the left lower extremity; he was in bed rather more than a week, and after this dragged the limb. In time it improved, and gradually he became able to use it freely. The limb has, however, never grown in the same proportion as the sound one. The child, as a result of this attack of palsy of the anterior leg muscles, has an acquired equinus, due to the unbalanced power of the calf muscles. Measurement shows differences in the circumference of the limbs and in the length of the bones. The left lower extremity is one inch shorter than the right, and one and a quarter inches less in girth below the knee. Around the point of the heel and the top of the foot the difference in measurement is a half-inch.

The second case was one of congenital club-foot with the following history. Six weeks

after birth he was operated on for equino-varus, and had subsequently a "sore foot," which prevented his wearing the apparatus prescribed. At six years of age a second operation was performed, which was also followed by a "sore foot." At the present time the bones of the left leg are smaller than those of the other; and careful measurement gives the following differences in the circumference of the limb at various points and in the length of the leg and foot:

The left is one inch less than the right at top of thigh; two and one-half inches less at middle of thigh; three and three-quarter inches less below knee; one and one-quarter inch less around heel; one and three-quarter inch less in length of foot; and one inch less in its entire length.

UPWARD DISLOCATION OF THE ACROMIAL END OF THE CLAVICLE.

Dr. S. W. Gross exhibited a gentleman suffering with this injury, caused by a fall, for whom he had had constructed an apparatus to prevent displacement of the joint-surfaces, which are retained in position with such difficulty after this dislocation. The elbow fitted into a sort of cup, from which a strap of webbing passed over the shoulder and by means of a pad made pressure upon the outer end of the clavicle. Other bands were required to prevent this primary one from slipping. The bone seemed to be in good position at the time of exhibition, which was five weeks after the accident. The apparatus was as efficient as strips of adhesive plaster, or the plaster-of-Paris bandage, and had advantages in regard to cleanliness and convenience.

Dr. Levis had thought of treating such cases, like fracture of the patella, by hooks or by wiring.

Dr. O. H. Allis stated that wiring had been done successfully by a surgeon in San Francisco.

SCROTAL TUMOR.

Dr. R. J. Levis brought to the notice of the Academy a patient having a large, painless, evidently non-malignant tumor of the right side of the scrotum. It had existed seven years, and was inconvenient only from its weight. On palpation it felt much like the mammary gland. Dr. Levis believed it to be a fibro-fatty growth, not connected with the cord or testicle, and probably outside of the vaginal tunic.

Dr. S. W. Gross believed it to be a fibro-fatty tumor of the spermatic cord, which had grown downwards. As far as his knowledge went, it was not likely to be an intrascrotal growth without being connected with the cord. Myomata, sarcomata, and fibromata are the forms of tumor that occur in the scrotum.

TRAUMATIC HERNIA OF THE BLADDER.

Dr. Morton presented a patient with traumatic hernia of the bladder, and read the following history of the case:

Jacob S., aged 34, single, was admitted into the Pennsylvania Hospital January 26, 1881. At the age of ten years he had sustained, by a machinery crush, a compound and comminuted fracture of the right pelvis, with dislocation and fracture of the head of the femur on the same side; the wound which communicated with the broken ilium extended from the anterior superior spinous process along the line of the groin and perineum, and involved the base of the bladder and outlet of the rectum; immense sloughing followed, from urinary infiltration, and subsequently erysipelas was developed. From the time of the accident up to 1868, fragments of bone continued to be thrown off, and the major portion of the pubis came away entire, as did also the head of the femur, split, however, in three pieces; consolidation of the shaft of the bone took place at an angle, on the dorsum ilii, with great shortening of the limb and immense atrophy; the wound in the groin and perineum closed up, except near the rectum, where a portion of the bladder protruded soon after the injury and has so continued to the present time, and from which opening all the urine is discharged, none having since the injury passed through the urethra; the outlet of the rectum in front is somewhat constricted by a band of tissue which extends across the perineum; but behind this bridge of skin the bladder and rectum open into each other.

The patient has since his recovery enjoyed the best of health, and is engaged in laborious work. An examination of the urethra shows it to be patulous to the neck of the bladder where the urethra is abruptly shut off, and at this place in the perineum the rupture of the bladder occurred. The patient is able to retain most of the urine, and does not suffer at all from incontinence, from the fact that the bladder falls forward and to the right side and fills up the space formerly occupied by the bony pelvis. He has no difficulty with the bowels unless when suffering from diarrhœa. He has ordinary venereal desire, but the discharges of semen pass through the vesical opening in the perineum. No operation was deemed advisable.

DEATH AFTER SOUNDING FOR VESICAL CALCULUS.

Dr. William Hunt showed a bladder and calculus removed from a man, aged 18 years, who had died at the Pennsylvania Hospital. The patient was admitted with symptoms of stone in the bladder, and was generally in a poor condition of health; he had never been sounded. The resident surgeon introduced a sound and discovered the calculus. On the day after the patient's admission, before Dr. Hunt had made his visit, death took place, without the occurrence of chill or fever, but apparently from profound nervous shock. The autopsy was partial, as permission could not be obtained to examine the kidneys or

chest. The patient, however, presented no œdema of the legs, nor had he had any convulsive seizures.

Dr. T. G. Morton thought it possible that the death had no connection with the examination of the bladder with the sound, but occurred from exhaustion due to prolonged suffering. He knew of an instance of death taking place after catheterization; but then chill and other symptoms of urethral fever had presented themselves.

JOHN B. ROBERTS, M.D.,
Recorder.

REVIEWS AND BOOK NOTICES.

A MANUAL OF DISEASES OF THE THROAT AND NOSE. By FRANCKE HUNTINGTON BOSWORTH, A.M., M.D., Lecturer on Diseases of the Throat in the Bellevue Hospital Medical College, and Physician-in-Charge of the Clinic for Diseases of the Throat in the Out-Door Department of Bellevue Hospital; Fellow of the New York Academy of Medicine, of the American Laryngological Association, and Member of the Medical Society of the County of New York. William Wood & Co., New York, 1881. 8vo, pp. xx, 427.

The rapid production of special works upon diseases of the throat and nasal passages, which have followed each other so closely during the past few months, is evidence of great attention to this special subject. The volume before us is from the pen of the Lecturer on Diseases of the Throat in Bellevue Hospital Medical College, New York, and is, as we glean from the preface, chiefly the outcome of an extensive personal experience. It treats of nearly all the affections which are apt to be brought to the notice of specialists in throat diseases. It is copiously illustrated, being particularly rich in pictures of instruments, supplied by an instrument-maker, to whose advertisement even several of the explanatory cuts in the use of instruments are made subservient. Of the illustrations of healthy and diseased structures a few are original, and these, as well as the remainder, have been selected with considerable care and judgment. The text is abundantly interspersed with working formulæ for treatment, mechanical and systemic; in addition to which there is an appendix of ten pages entirely devoted to the same subject. Although attention is prominently drawn to the author's individuality, we fail to perceive any preponderance of personal peculiarity in treatment, save in the condition of laryngeal phthisis. Even in the discussion of the treatment of bilateral paralysis of the abductors we have failed to read a line justifying the author's comment in his preface, that he has designedly treated of this and other subjects at considerable length "with the object of introducing personal views and methods of treatment which are not given in other works." We are of the opinion that all authors call prominent attention to the necessity of tracheotomy in the great majority of these cases.

Although the instructions for making laryngoscopic examinations are, as a rule, reliable and judicious, we are surprised to notice frequent inaccuracies of expression and uncorrected errors of reference, which detract very much from the value of the text. Thus, on the very first page, the laryngeal mirror is described in one sentence as attached to a slender wire stem, and in the very next sentence a stout stem is recommended. In the delineations of laryngoscopic mirrors we find two which are actually obsolete: one of them, probably, never having been used outside of Tübingen, where it originated. The author evidently prefers the naked gas-light and the simple reflector to all other methods of illumination. In commenting on the Tobold apparatus, he states that he has never been able to determine the optical principle upon which it has been employed; to learn which it would have been simply necessary to consult the formulæ printed in Tobold's own book. We are surprised, too, to see it asserted that it is usually taught that the laryngoscopic image in the mirror is reversed, when, in fact, all writers take especial care to teach the opposite. The average American student, we imagine, will be somewhat puzzled over the admirable enlarged view of the laryngoscopic image, without a line in text or description to anglicize the Latin terms imprinted in portions of the figure. On the same page, too, on this self-same very important subject of the laryngoscopic image, are a couple of incorrect references to illustrations,—an unfortunate oversight, the correction of which has been likewise overlooked in other portions of the volume. This is evidently the result simply of overcrowding with pictures accumulating at odd times, a circumstance accounting, probably, for a cut of something else instead of a powder-insufflator, and for a few similar inaccuracies that have caught our attention in running through the volume.

It would have been courteous to the memory of a much-abused man to have intimated that Dr. Green's skill in introducing the probang into the larynx and trachea had been demonstrated as well as "called in question." None should know better than the author that this procedure is practicable. Dr. Bosworth announces himself as a great advocate for the use of sprays instead of applications by brush and sponge. Although he has called in question the skill of a master in manipulating within the larynx without the aid of the laryngoscopic mirror, he dispenses with its aid himself in applying sprays to the larynx. Did he use the mirror he would see that in many instances his sprays do not get into the larynx at all. For accuracy of intralaryngeal

medication the mirror, in our opinion, should always be employed as a guide to the hand, except in those rare instances in which an unusually high and elevated epiglottis, visible on ordinary inspection of the throat, renders the use of the mirror superfluous. When the sprays do get into the larynx—unless the object is merely to flood the upper surface of the vocal cords during phonation—they are apt to go straight down the trachea, without touching the sides of the larynx at all, especially if propelled by the strong current of compressed air recommended in the text. On the other hand, a fragment of soft sponge introduced within the laryngeal cavity is brought in contact with its walls by the spasmodic action which it excites, and is thus a much more accurate means of application, and one that is much more limited in its action. Of course the larynx and trachea are not to be swabbed out as if the structure were a chimney-flue. But, with due care and skill, the sponge and even the brush are far more effectual chirurgical implements than the spray-producer, which has its uses, however, in the management of many affections of the throat and nasal passages.

The hygienic rules advocated by Dr. Bosworth are excellent and well intended, though the evils attributed to certain articles of apparel appear to us much too far-fetched.

The article on "taking cold" is a good one. Rather a curious line of argumentation, recalling our childhood's stories, is presented to favor the author's belief that a catarrh of the upper air-passages will lead to the eventual development of lung disorders,—a belief in which he differs from the majority of matured observers. Thus, he states, "there can be no question that an individual suffering from a chronic laryngeal catarrh is far more liable to an attack of tracheitis;" "one suffering from a tracheitis is far more susceptible to a bronchitis," "and so on down to the deeper lung-tissues." Why, few observations are more general than that the bronchitis of the aged existed for years without ever impairing the deeper structures; and surely the author's experience must have shown him many a case of confirmed laryngo-tracheitis of long standing without any history of intercurrent bronchitis.

To turn now to the descriptions of diseases and their remedies. Descriptions of diseases are sufficiently minute, without being prolix. The chief points of pathological interest are fairly indicated, and hypothetic speculation is avoided. The therapeutic resources are more minutely laid down than has been the case in the majority of works published upon the same subjects, the choice of a number of formulæ being presented in connection with nearly every therapeutic commendation. The author's views on laryngeal phthisis are peculiar, and he claims much greater success in its treatment than other authors, even to the habitual cicatrization of the phthisical ulcerations. As this subject has been fully presented in the medical journals, we need not go into details here, but merely state that the chief peculiarity of the author's local treatment consists in thorough cleansing of the parts, followed by the application in succession of astringents, anodynes, and iodoform. His success is certainly exceptional.

In connection with the subject of syphilis, the author has, in two instances, recognized the mucous patch upon the ventricular bands. These are stated to be the only cases in which he has felt convinced of the presence of the mucous patch in the larynx. A combination of local cauterization by the fused nitrate of silver, followed by the application of iodoform to the cauterized surface, has proved more effective in the author's hands in the management of these patches than any other remedial resource. He acknowledges the importance of the internal administration of mercury, thereby coinciding with the majority of writers on the subject, in contrast to the almost isolated position of Mackenzie. We find frequent evidence of endorsement of the value of the local action of morphia in obtunding the pain of ulcerative conditions of the larynx from whatever cause.

The author appears to find less difficulty in distinguishing the ulcers produced by syphilitic, tuberculous, or carcinomatous influence, and presents a table detailing their distinguishing characteristics. There is a well-illustrated description of the methods of overcoming cicatricial stenosis of the larynx, and a fair exposition of the subject of extirpation of the larynx. The latter contains a larger collation of cases than has been previously published. Unfortunately, no references are given to the original reports. And in fact, except in connection with the subject of bilateral paralysis of the abductors of the larynx, we have failed to come across a single reference. In conclusion, while conceding the value of this volume as an expression of the author's opinions and practice, we must acknowledge that it is both too meagre for a treatise and too extensive for a manual. A good manual or working volume on diseases of the throat and nasal passages, adapted to the requirements of the young or inexperienced physician, has yet to be written. J. S. C.

A Practical Treatise on Surgical Diagnosis. Designed as a Manual for Practitioners and Students. By Ambrose L. Ranney, A.M., M.D., Adjunct Professor of Anatomy, and late Lecturer on the Surgical Diseases of the Genito-Urinary Organs and on Minor Surgery, in the Medical Department of the University of the City of New York, etc., etc. New York, William Wood & Co. Second Edition, pp. 471.

The author has, as we conceive, undertaken a task such as no man can satisfactorily carry

out in the way he has mapped out for himself. We regret that there seems to be such a demand for works like the present, as is shown by the issue of this second edition of Dr. Ranney's book. This work is too much like the "royal roads to knowledge" which are so much in vogue nowadays, and which in most instances the readers find to be "royal roads to error,"—or, in other words, they will discover that no one can successfully arrive at a correct diagnosis by reading over a table of diagnostic points disassociated from the etiology, pathology, and history of the disease. We are opposed to works like the present, believing them to be pernicious in their tendency. The only way to write a useful work on surgical diagnosis is to write a concise text-book on the science of surgery, omitting merely prognosis. A work like Da Costa's in surgery *might* be useful, although we think that any good surgical text-book is all a student or practitioner needs; but one like the present, where a differential diagnosis is to be founded on such distinctions as "sometimes," "usually," "often," "if," etc., can scarcely be satisfactory. Let no one imagine that we do not know the impossibility of not using such terms as the above; but they should, and can, have appended to them the reasons for such exceptions, or why one symptom is "sometimes" present in one case, while in another apparently identical one it is absent. In fine, to render such a complicated subject as surgical diagnosis clear, a certain amount of knowledge of the etiology, pathology, etc., of the disease is essential. This information cannot be incorporated in a table, and for that reason we think the plan a mistake. Having thus far pursued the ungrateful task of condemnation, let us see wherein the work is worthy of praise. In the first place, its author must have appreciated the force of what we have just said, since we understand that much more explanatory text has been introduced in this edition at the opening of each chapter. In so far as this goes it is good. What is given in the text, we confess, in the main is satisfactory, although where pathology is mentioned the views are not always thoroughly orthodox.

The style, too, is quite up to the average. The diagnostic points in the various tables are excellent, and do the author credit. In fine, while we cannot think that the work can possibly be a thoroughly good book for students, it may prove of use to the busy practitioner as a refresher of his memory. The practitioner can mentally supply the missing links which the salient points will serve to recall, but the student who is without that prerequisite information will be only too apt to be satisfied with this royal access to knowledge, which must prove but a broken reed in time of trouble. Used as we have just indicated, and by graduates, we would qualifiedly recommend it, although we reiterate our former statement that a good text-book is a better one to read when in doubt about any case. To the student we would say, Remember the old adage, "The longest way around is the shortest way home."

C. B. N.

A Guide to the Examination of the Urine. Designed chiefly for the Use of Clinical Clerks and Students. By J. Wickham Legg, M.D. Fifth Edition. Philadelphia, Presley Blakiston, 1880. 16mo, pp. 110.

Hand-Book of Systematic Urinary Analysis, Chemical and Microscopical. For the Use of Physicians, Medical Students, and Clinical Assistants. By Frank M. Deems, M.D. New York, Industrial Publication Company, 1880. 16mo, pp. 30.

How a Person threatened or affected with Bright's Disease ought to Live. By Joseph Edwards, M.D. Philadelphia, Presley Blakiston, 1880. 16mo, pp. 87.

Dr. Legg's little book, having reached the fifth edition, is too well known to require any extended notice. The present edition has been carefully revised.

The hand-book of Dr. Deems is really a convenient collection of tables arranged in sections, in which are succinctly given the principal facts as to the general physical characters of the urine and directions for testing for its normal and abnormal constituents. All essential directions seem to be included, and among them are some practical hints we have not seen elsewhere. Among these are the directions for decolorizing urine before testing for sugar, according to which a tablespoonful of animal charcoal and a pinch of sodium carbonate are added to two ounces of urine in a bottle, the mixture shaken for five or ten minutes, and filtered. Again, "Hold the urinometer-cylinder obliquely, when filling it, to avoid a foam," obviates a troublesome occurrence by which time is often lost. The little contrivance the object of which is to serve at the same time as a urinometer-glass and a collector of sediment is the best yet suggested, but, as the measures described to secure cleanliness are absolutely essential, we question whether there is much economy of time in its use as compared with that of the usual conical glasses and pipettes. We would suggest that those, at least, who make many examinations should have a couple of the modified burettes and stand, as well as extra pieces of gum tubing and attached glass jets. In this manner a clean one could be always at hand.

The little book has the advantage of being inexpensive as well as reliable.

The third book on the list, by Dr. Edwards, "How a Person affected with Bright's Disease ought to Live," is not written for the professional reader, but might be read by him with advantage, containing, as it does, many valu-

able suggestions, although we cannot agree with the writer in all his recommendations,—as, for example, the total proscription of alcohol and diuretics. We do not think alcohol has directly caused many cases of Bright's disease, and in moderate quantity freely diluted it cannot do any direct harm as long as the liver and lungs remain as a bulwark between the stomach and kidneys. It is true that the free consumption of alcohol, by producing gastritis and interfering with digestion, prevents proper assimilation, and thus indirectly affects the kidneys unfavorably, and if very large amounts are ingested, some will pass through the liver and lungs unoxidized and irritate the kidneys. Not so with moderate quantities freely diluted. Again, with regard to diuretics. While stimulating diuretics are harmful, such as act by increasing blood-pressure from behind, as digitalis, diluents, and the vegetable alkalies, are harmless, and often necessary to remove the dropsy which is so frequent a symptom. J. T.

GLEANINGS FROM EXCHANGES.

Backache—its Causes.—Dr. George Johnson (*Brit. Med. Jour.*, vol. i., 1881, p. 221) says that in the great majority of cases the pain of backache has its seat in the muscles, and is a simple result of strain or over-fatigue of the lumbar and erectores spinæ muscles and tendons. A remarkable feature of the pain resulting from excessive muscular exercise is that, while it may continue more or less during rest in bed, it is usually much increased by the first movements after rest, but gradually diminishes after moderate exercise. In muscular lumbago, standing is more fatiguing for the back and legs than walking, and leaning forward puts a greater strain on the muscles of the back than standing erect. Pain is often more severe on one side than on the other, owing to the common practice of throwing the weight more on one leg than on the other. A common cause of painful overstrain in the dorsal muscles is an excessive weight in the abdomen, whether from advanced pregnancy, dropsy, or excessive development of fat. Dr. Johnson, in speaking of these causes, incidentally gives the dietary advisable in obesity. He also calls attention to dyspeptic myalgia resulting from malnutrition of the muscle. "Growing-pains," Dr. Johnson thinks, are due to excessive muscular exercise, and are to be cured by rest. Sudden pain is sometimes caused by cramp or rupture of some fibres of the muscle during contraction. Indigestible foods sometimes cause cramps in muscles in certain individuals instead of cramps in the stomach. Cold, as is well known, is a frequent cause of pains in other muscles besides those of the back. For lumbago Dr. Johnson recommends hot air or Turkish baths, followed by vigorous shampooing; also an embrocation composed of equal parts of linimentum belladonnæ and linimentum opii.

Other causes of backache are aneurism of the aorta, the symptoms of which Dr. Johnson gives at some length, with illustrative cases; cancerous glands in the abdomen; diseases of the kidneys; gastric ulcer; uterine diseases; diseases of the bones of the spine and of the spinal cord; and, finally, the backache of commencing fevers.

New Facts regarding the Use of the Bromides in Epilepsy.—Dr. A. Hughes Bennett (*Edin. Med. Jour.*, February, 1881, p. 706) says that the general circumstances of the individual are to be studied; his diet, hygiene, surroundings, habits, etc., if faulty, are, when practicable, to be improved. The bromides, when ordered, are to be taken without intermission. The minimum quantity for an adult to begin with is thirty grains three times a day,—the first dose half an hour before rising in the morning, the second in the middle of the day, on an empty stomach, and the third at bedtime. This is continued for a fortnight, and, if with success, is persevered with, according to circumstances, for a period varying from two to six months. If, on the other hand, the attacks are not materially diminished in frequency, the dose is immediately increased by ten grains at a time until the paroxysms are arrested. In this way as much as sixty to eighty grains thrice daily have been administered by Dr. Bennett, and, with one or two isolated exceptions, he has never found a case which resisted the treatment. He has never seen any really serious symptoms of poisoning or injury to the general health. Sometimes these amounts must be continued, but oftener it is better to diminish to that dose which will keep the attacks in check without seriously interfering with the patient's health. His experience with three hundred cases (of which he gives tables) has been so favorable as to lead him to believe epilepsy, of all chronic nervous diseases, is the one most amenable to treatment. Dr. Bennett's favorite prescription is as follows:

℞ Potass. bromid.,
Ammon. bromid., āā gr. xv;
Sp. ammon. aromat., f℥ss;
Infus. quassiæ ad f℥i.—M.
Sig.—Thrice daily.

Headaches of Childhood.—Dr. William Lee read a paper on this subject before the Clinical Society of Maryland (*N. Y. Med. Rec.*, vol. i., 1881, p. 303), in which he said that headache among school-children is apt to be hereditary, and is especially to be traced to confinement and over-study at a time of life when the brain is still undeveloped. Its causes are (1) overtaxing the brain; (2) gastric and intestinal disturbance, worms; (3) anæmia (from malaria, etc.), producing neu-

ralgia or nervous headache. Monobromide of camphor, he thought, gave the best results in the first class of cases. In sick-headache, the second variety, fluid extract of guarana (especially if the patient be kept at rest after using,—a very important precaution) and nux vomica are the most efficient remedies; the latter is a most important remedy. The third variety may be due to teething. A general tonic plan, including valerianate of zinc, may be used here. In malarial headaches, Fowler's solution and dialyzed iron give the best results. In the discussion following the reading of the paper, attention was drawn to the fact that optical headaches had been omitted, also headaches from defective ventilation.

THE CROTON-OIL TREATMENT IN RINGWORM.—The croton-oil treatment, as it is called, which has recently been brought prominently to the notice of the profession by Dr. Alder Smith, is one with which every practitioner who may have charge of an institution where numbers of children are brought together should be familiar. It appears to be the best method of extirpating ringworm of the scalp in institutions yet devised. Dr. Liveing (*Brit. Med. Jour.*, vol. i., 1881, p. 227) calls further attention to this method of treatment, and says that those who wish to use croton oil with safety and success should adopt the following rules, which are, perhaps, a little on the side of caution. 1. Not to use it for children under ten years of age. 2. Never to apply it at any one time to a surface larger than a florin. 3. To use it only in chronic cases which will not yield to ordinary treatment. 4. To use it only with the consent of the patient's friends, the nature of the treatment and the effect of the croton oil on the skin being first fully explained. If the last rule be not carried out, parents are apt to think their children are being over-treated.

SUPPURATION OF ENLARGED THYROID.—Spontaneous suppuration of a goitre, says the *Lancet*, is one of the least common terminations. An instance in which this occurred during the course of an attack of typhoid fever, in a case under Dr. Jaccoud's care, is recorded by Weill. The patient, a man of 22, had a goitre of moderate size and firm consistence. He had lived until within four months in a district where goitre is endemic. The attack of typhoid fever ran a normal and mild course. The day after the temperature had become natural he complained of severe pain in the neck, and the surface of the goitre was observed to be reddened. During the next day the redness and size of the goitre increased, and its consistence diminished until distinct fluctuation was perceptible. A week later it was incised, and a large quantity of pus escaped. A drainage-tube was applied, and the cavity was washed out daily with carbolic acid. It gradually lessened in size, and was ultimately reduced to two or three small nodules by the side of the larynx.

THE PHARMACOLOGY OF CHLORAL HYDRATE.—M. Dmitrieff states that he has tested the effect of chloral hydrate, both clinically and experimentally, on unhealthy, badly-granulating wounds. By excision of a piece of skin in dogs and infection of the wound with putrefying matter, he produced unhealthy ulcerating surfaces. Some of these he dressed with one or two per cent. solution of chloral hydrate, while the rest were simply covered with a moist cloth. The first very soon became healthy, and cicatrized before the others. The ulcers, on microscopic examination, were found covered with a layer of micrococci, which disappeared after two or three days' dressing with chloral hydrate. These results were confirmed clinically; and the writer has also shown that an equal quantity of a one per cent. solution of chloral hydrate destroyed in twenty minutes all mobility of the bacteria in a putrefying infusion of flesh. —*Brit. Med. Jour.*, vol. i., 1881, p. 48.

CHILBLAINS.—A correspondent of the *British Medical Journal* having written to inquire as to the best treatment of this ailment, he is advised by one writer in reply to use cold bathing, loose boots with thick stockings, and applications of nitrate of silver if the surface is unbroken. Another writer suggests sponging with the negative pole of a galvanic battery, the current being as strong as can be borne. Another recommends liniment of aconite. Other recommendations are: an ointment of lard and dry mustard rubbed in before a fire for twenty minutes at night; painting with flexible collodion; sponging with very hot water; strong solution of acetate of lead; sulphurous acid; and, finally, the following: curd soap, ℥i; water, ℥iv; dissolve with heat, and add gum camphor, ʒiv; rectified spirits, ʒvi; essence of bergamot, ℈ij; liq. ammoniæ fort., ʒvi. Make into a liniment to be rubbed in.

CERTAIN PHYSIOLOGICAL EFFECTS OF STRETCHING THE SCIATIC NERVE. — Prof. Brown-Séquard (*Lancet*, vol. i., 1881, p. 206) has made some experiments on nerve-stretching in guinea-pigs. It is known that, in these animals, transversal hemisection of the dorsal spinal cord is followed by decided hyperæsthesia, with considerable paralysis, in the posterior limb on the corresponding side, while there is a marked degree of anæsthesia (and even sometimes a complete loss of feeling) in the posterior limb on the side opposite to that of the lesion. Rabbits are about the same, while in dogs the hyperæsthesia and anæsthesia are not so well marked. In Dr. Brown-Séquard's experiments eleven guinea-pigs were thus operated upon; the upper part of the sciatic nerve of the operated side was then stretched. In eight of the animals considerable return of sensibility in the limb operated upon occurred within a short time. In three

animals no change took place, but in two of these more than half of the cord had been cut. Hyperæsthesia took the place of anæsthesia in some of the eight animals, and even the hyperæsthesia of the opposite limb increased.

The experiments on rabbits did not give clear results. One dog experimented upon showed not only return of sensibility and hyperæsthesia on the side of the stretched nerve, but increase of hyperæsthesia on the other side as well, with loss of voluntary motion on both sides. Dr. Brown-Séquard thinks the cord itself is affected, and draws conclusions from these experiments unfavorable to the operation of nerve-stretching in locomotor ataxy.

INGLUVIN.—Dr. Dabbs (*British Medical Journal*, vol. i., 1881, p. 86) does not find it best to give ingluvin before meals in dyspepsia, the vomiting of pregnancy, etc., nor is it necessary to give it thrice daily. He gives ten grains in water as early as possible in the morning, say 5 or 6 A.M. At 8 or 9 A.M. fifteen grains more are given, and an hour after this second dose a breakfast of iced soda-water and milk with dry toast is taken. On the second morning fifteen grains are given very early, and twenty grains later (before food is taken); on the third day twenty grains are given at each dose, and by this time the vomiting has probably ceased, and the ingluvin may be taken thrice daily in ten-grain doses. In the atonic dyspepsia of early phthisis Dr. Dabbs considers ingluvin particularly valuable.

TOLERATION OF OPIUM IN THE INFANT.—Dr. J. Mackenzie Booth writes to the *British Medical Journal*, November 13, 1880, describing the case of an infant to whom opium was given for colic in increasing doses until, at the age of four months, the infant was getting, in drachm doses, from six to eight drachms of laudanum in the twenty-four hours. On coming under Dr. Booth's care, he was extremely emaciated, but gradually recovered on taking away the opium by degrees and giving nourishing food and cod-liver oil.

GRANULAR PHARYNGITIS.—The anatomical characters of so-called "granular pharyngitis" have been made the subject of investigation by Dr. Saalfeld, of Stettin (*Virchow's Archiv; Med. Times and Gaz.*, 1880, p. 570). Dr. Saalfeld finds that the essential pathological changes in this form of sore throat consist in an increase of the lymphatic tissue of the mucous membrane around the duct of an hypertrophied mucous gland, that portion of the duct being dilated which lies in the thickened tissue.

KELOID OF THE EXTREMITY OF THE EAR.—Dr. Axel Key (*Hygieia; British Medical Journal*, vol. ii., 1880, p. 808) gives a case where keloid growths had arisen from the scars of perforations made for the purpose of introducing ear-rings. Eight times in twenty years these growths had been extirpated and had returned. When last taken away, the tumor had one and a few tenths inches in breadth and a little more than one and a half inches in length. It projected in a round form from above the surrounding skin, from which it was sharply defined. It was everywhere hard, firm, and elastic, and presented, on section, the appearance of firm connective tissue, with a gray-white surface traversed by a net-work of whitish fibres.

A NEW REMEDY IN PRURITUS.—Dr. L. D. Bulkley (*New York Med. Jour.*, 1881, p. 30) uses gelseminum. Beginning with ten drops of the tincture, if in half an hour the itching is not relieved, and there are no toxic symptoms, as languor, the remedy is repeated in the dose of twelve or fifteen drops, and so on until results are obtained, or until a drachm or so has been taken in two hours. He has never pushed it to any of the severer symptoms, and has often found relief after the first dose.

REMEDIES FOR CHILBLAINS.—The following formula for Dr. Valentine Mott's remedy is given in the Proceedings of the Medical Society of the County of Kings:

℞ Beef's gall, ℥iv;
Ol. terebinth., ℥iv;
Spt. vini rect., 90 per cent., ℥iss;
Tinct. opii, ℥i.

Another formula for the same affection is,—

℞ Beef brine, Oj;
Potassæ nitratis, ℥ij;
Aquæ ammoniæ, ℥iij.

CORRIGAN'S BUTTON IN RESTORING THE HEART'S ACTION.—Dr. Mullin writes to the *British Medical Journal* urging the use of the simple and efficient instrument known as Corrigan's button. He does not describe this instrument, but says that an ordinary metal spoon or iron key, warmed in the flame of a candle or gas-jet, might be used. It should be heated till the finger can just bear it, and then used to give a few short, sharp taps over the region of the heart. Two incentives to arouse the action of the heart are thus given,—the effects of the tapping itself and the shock of quickly-applied heat,—more potent, perhaps, than electricity.

ASTHMA TREATED BY LOCAL APPLICATION OF IODINE.—A correspondent of the *British Medical Journal* had a very severe and chronic case of asthma under his care, for the relief of which he painted over the line of both pneumogastric nerves with iodine liniment,—full strength. This proving too strong, an application of half strength was substituted for it and applied for the next two days, at night, and subsequently less frequently. The patient's condition improved greatly. No medicine was used internally.

ASSOCIATION OF TONSILLITIS AND RHEUMATISM.—A correspondent of the *Lancet* calls attention to the fact, sometimes forgotten, that in certain members of arthritic families tonsillitis occasionally appears to take the place

of the articular affection. He has sometimes endeavored to treat tonsillitis by the abortive process, with the result of laying up his patient with subacute rheumatism. Under these circumstances he believes Dr. Liveing's suggestion of giving colchicum a good trial in recurrent quinsy to be a good one.

SCLERODERMA INFANTUM.—Under this name a correspondent of the *British Medical Journal* (vol. i., 1881, p. 192) describes the case of a newly-born seven months' child whose skin was hard, leathery, and tense (so much so that the legs could not be straightened), and on no part of the body could the skin be pinched up. With artificial respiration it was brought to give one or two faint gasps, but then died. No post-mortem examination was made.

IODINE A SUBSTITUTE FOR QUINIA.—Dr. Grinnell says (*Canada Medical and Surgical Journal*, 1880) that, given boldly,—*i.e.*, in doses of ten to twelve drops of the tincture in half a glass of sweetened water every eight hours,—iodine will never rank second to quinia in the treatment of intermittent fevers.

KAVA-KAVA is an efficient remedy in purulent inflammations of the urinary tract and in cystitis. In urethritis the following formula may be employed: sixty grammes of the fluid extract of kava-kava, two grammes of benzoic acid, and twelve grammes of powdered borax. Three teaspoonfuls daily.

QUEBRACHO has been used by J. R. Berkart as an efficient palliative in the dyspnœa of emphysema, atheroma, and fatty degeneration of the heart. Relief followed within three minutes after the exhibition of a teaspoonful of the fluid extract.—*Lancet*, vol. i., 1881, p. 75.

HOT-WATER COMPRESSES IN TETANUS AND TRISMUS.—Spoerer dips a large-enough piece of coarse flannel in water of a temperature which can just be borne by the hand, and applies the compress to the occiput and along the spine.—*Lancet*, vol. i., 1881, p. 75.

BLACK URINE IN ACUTE POISONING FROM CHLORATE OF POTASSIUM.—At a recent meeting of the Society of German Physicians (*New York Medical Record*, 1881, p. 23) Dr. Jacobi showed a sample of characteristically black urine voided by a patient who had been poisoned by overdoses of chlorate of potassium.

SYPHILITIC ELEPHANTIASIS.—At the same meeting Dr. Klotz showed a specimen of syphilitic elephantiasis of the leg, which he had exhibited at a previous meeting of the Society. The extensive necroses of the soft coverings of the leg were ascribed to the existence of an arteriitis obliterans. Last October the patient began to complain of rheumatoid pains in the hitherto unaffected leg of the left side. This was rapidly followed by extensive gangrene of the soft parts, showing that here also the vascular affection previously diagnosed had occurred. The patient was now gradually sinking into symptoms of slow septicæmia.

MISCELLANY.

IMPROVED COLD CREAM.—A correspondent of the *Chemist and Druggist* offers the following receipt:

"This formula for cold cream I have never published before, and I think it is really good in every way: at any rate, it meets with unsolicited encomiums from purchasers, and it gives myself more satisfaction than any I have tried. I have used it some years:

"℞ Cera alba, ℥ix;
Cetaceum, ℥ix;
Ol. amygdal., ℥xii;
Aqua, ℥vii;
Creta præcip., ℥i;
Otto rosæ, *ad lib.*;
Chloroform, gtt. xii.

"Put cera, cetaceum, aqua, creta præcip., together with half of the ol. amygd., melt in an earthenware vessel by water heat, stir in the other half of ol. amygd., and continue till cold. The more stirring, the better the result. Add otto and chloroform when cold."

[The addition of precipitated chalk and chloroform has the probable effect of preventing the preparation from becoming rancid. The chalk, through its saturating properties, neutralizes the acids, which by their presence are known to promote the peculiar fermentation causing the rancidity of fatty substances. The chloroform, owing to its antiseptic action, prevents the propagation of destructive germs. Both are unobjectionable for cosmetic purposes; but the carbonate of lime is not allowable in cold cream to be used medicinally.]—*Druggists' Circular.*

LONGEVITY IN THE "GOOD OLD TIMES."—There is one point which is too frequently overlooked by writers on historical cases of longevity,—the singular difference between our estimation of an old man and that of our forefathers. "Old John of Gaunt, time-honored Lancaster," died at 59; so did James I.; Henry VIII. only reached 53. The Huguenot admiral Coligny, whose "hoary hair, all dabbled o'er with blood," is mentioned by Macaulay, and whom his earlier biographer, Lord Huntington, represents as a very old man, was slain at 53, when, in these days of Moltkes, Gortschakoffs, Gladstones, Beaconsfields, Dufaures, Broughams, and Lyndhursts, a man is supposed to be rather on the juvenile side. In point of fact, for our ancestors a man of 50 was old; with us the limit is nearer 80. It is legitimately to be inferred from this fact, in the first place, that the average duration of human life was shorter in past time than it is nowadays; in the second, that the chances of error in accounts of alleged centenarians were infinitely greater,—that if a man of 80 or 85 called himself 100 or 110 his story would be exceedingly apt to be believed.—*The American.*

MIDWIFERY IN THE PARIS HOSPITALS.—The *British Medical Journal* says that lately

some scandalous facts have come to light relative to the working of the obstetrical department of the Paris hospitals. Pregnant women are usually admitted into the general wards, and attended by the physician or surgeon of the ward. No precaution is taken to guard the lying-in woman from infection: she may have lying on one side a patient dying of pyæmia, and on the other a case of diphtheria or scarlatina. The mortality is beyond anything reached elsewhere: it is a wonder any women escape with their lives. To entice women into hospitals, where they expect all the resources of medical science to be at their aid, and to give them treatment compared with which that of the most ignorant midwife would be immeasurably superior, is, indeed, a disgrace to civilization and to Paris. "We hope, for the sake of humanity," concludes the *Journal*, "that the municipal council of Paris will boldly and effectively wipe out this blood-stain of murdered women and children. In no other city in the world could such things happen."

CITRIC ACID TO RENDER WATER SAFELY POTABLE.—Dr. Langfeldt has experimented with a number of substances in studying their applicability to the purpose of destroying microscopic life in drinking-water. The most striking results he obtained from citric acid. Upon the addition of one part to two thousand, life ceased in from one-half to two minutes. Microscopic examination showed that those forms of animalcula supplied with a thick epithelial covering are not affected by this dilute citric acid, but only those with delicate coatings. But as the greater portion of these unwelcome visitors belong to the latter category, and as those of the former variety are visible to the naked eye, a solution of the above-mentioned strength (1 to 2000) will suffice as a safeguard. In about one minute after their death these animalcula settle to the bottom of the vessel containing the water, and can always be found in abundance in the sediment. As the solution of citric acid spoils so readily, Langfeldt advises that it should be freshly prepared every day. —*Druggists' Circular.*

WHALES were formerly counted as important aids to the fisheries of the North Sea coasts, by driving immense numbers of small fishes towards the land. Now, according to M. Bogdanoff, of the recent Russian North Sea expedition, since the whales have been pursued with steamers and bullets instead of sailing-vessels and the old harpoon, their destruction has greatly increased, and the number of small fishes coming to the coast has correspondingly diminished. The cod-fishing has been nearly extinguished in parts of the Varanger Fiord region in consequence of the presence of sharks, which, attracted by the fat thrown into the sea at Varanger, destroy the fish. Both of these instances illustrate the interdependence which exists among the different kinds of animals inhabiting the same region.

FOREIGN BODY IN THE INTESTINE.—A correspondent of the *Lancet* gives the case of a boy of 10 who accidentally swallowed a pin. He forgot all about the circumstance, and continued in good health during the subsequent four months. At the end of that time he came under treatment for slight tenesmus and pain on defecation,—symptoms which were relieved by a dose of castor oil. Four days later he thought he felt a bone in the lower bowel, and an examination then revealed a sharp-pointed black pin about one and one-quarter inches long, which had passed through the rectum and was piercing the skin half an inch to the right of the anus. Two days after the removal of the pin the parts were healed and the lad was well.

THE Thirty-Second Annual Meeting of the Pennsylvania State Medical Society will be held in the city of Lancaster on Wednesday, Thursday, and Friday, May 11, 12, and 13, 1881, commencing on Wednesday at 9 A.M.

OBITUARY. — Dr. Isaac Ray, the distinguished alienist, died, at his residence in this city, on Thursday, March 31, in the seventy-fourth year of his age.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM MARCH 20 TO APRIL 2, 1881.

GIBSON, J. R., MAJOR AND SURGEON.—Relieved from duty at Fort McHenry, Md., and to report to the Commanding Officer, United States Barracks, Washington, D.C., for duty as Post-Surgeon. S. O. 52, Department of the East, March 22, 1881.

BROWN, H. E., MAJOR AND SURGEON. — Promoted from Assistant-Surgeon, vice Otis, deceased.

MEACHAM, F., CAPTAIN AND ASSISTANT-SURGEON. — To report for duty to the Commanding Officer, Fort Hamilton, New York Harbor. S. O. 52, c. s., Department of the East.

WOODRUFF, E., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in Department of Texas, to proceed to New York City, and, by letter, report arrival to the Surgeon-General. S. O. 72, A. G. O., March 30, 1881.

AINSWORTH, F. C., CAPTAIN AND ASSISTANT-SURGEON (now awaiting orders in New York City).—To report in person to the Commanding General, Department of Texas, for assignment to duty.—S. O. 72, c. s., A. G. O.

WORTHINGTON, J. C., CAPTAIN AND ASSISTANT-SURGEON (now on leave of absence).—To report in person to the Commanding General, Department of the East, for assignment to duty. S. O. 72, c. s., A. G. O.

REED, W., CAPTAIN AND ASSISTANT-SURGEON (awaiting orders at Fort McHenry, Md.).—To report to the Commanding Officer of that post for duty. S. O. 52, c. s, Department of the East.

PORTER, J. Y., CAPTAIN AND ASSISTANT-SURGEON. — Granted leave of absence for one month, to take effect from 6th proximo. S. O. 28, Department of the South, March 22, 1881.

SCHUÉ, E. D., FIRST-LIEUTENANT AND ASSISTANT-SURGEON. —When relieved at Fort Grant by Assistant-Surgeon J. B. Girard, to report in person to the Commanding Officer, Camp Thomas, A.T., for duty. S. O. 27, Department of Arizona, March 8, 1881.

KING, J. H. T., CAPTAIN AND ASSISTANT-SURGEON.—The leave of absence granted him in S. O. 253, November 29, 1880, from A. G. O., is extended to June 30, 1881, and his resignation accepted by the President of the United States, to take effect June 30, 1881. S. O. 65, A. G. O., March 21, 1881.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, APRIL 23, 1881.

ORIGINAL COMMUNICATIONS.

THE TREATMENT OF EXOPHTHALMIC GOITRE BY ELECTRICITY.

BY WILLIAM R. D. BLACKWOOD, M.D.,
Physician to St. Mary's Hospital.

TO those skilled in the treatment of obscure nervous disorders, it may seem an unwarranted assertion that Graves' disease is a malady unwelcome to the general practitioner, as being one not easy to treat, and one which therefore does not reflect favorably on his skill; and in this I do not mean to say that the problems in disease encountered by the family practitioner are, as a rule, easy, and that his burden is, per consequence, light; nor do I imply, on the other hand, that it is either necessary or desirable that difficult cases of any kind should be in general turned over to the specialist. On the contrary, two of the cases narrated herein were, at one time during their progress, under the care of well-known neurologists, whose success was not better in the end than that of the gentlemen from whose practice the patients originally came. In many standard works, however, the prognosis of this distressing form of goitre is set down as very favorable; yet the identical treatment recommended by the authors has over and over again failed to either cure or to afford decided relief in the hands of others; and such a state of affairs is by no means encouraging,—to the young practitioner particularly. The action of every drug in the Pharmacopœia is well known to be influenced by the idiosyncrasy of the patient at times, just as in food, where, according to an old saying, "one man's meat is another man's poison," and the occasional failure to secure prompt or radical amendment in the variety of goitre under consideration may of course be due largely to this fact. At any rate, the cases herein reported went from bad to worse, under excellent management, until electrical measures were instituted; and as the profession at large is by no means agreed on the value of this therapeutic agent, they are presented with a view to encourage further investigation in a field which is wide enough to afford more definite conclusions than have heretofore been had.

E. M. H. menstruated for the first time in her fourteenth year, and enjoyed, as she did before that event, perfect health until the next year, when, from supposed overexertion at a picnic, she complained of cardiac palpitation on slight exertion, carotid throbbing on assuming the horizontal posture at night, within some six months thereafter increasing dyspnœa, and within a year from seizure perceptible thyroid enlargement. Treatment was instituted shortly after her first complaining, digitalis, aconite, and belladonna being employed. Her general health precluded iron and other tonics, but, exophthalmos becoming evident about a year after first complaining, she was put upon iron and arsenic. Her functions were all in perfect accord, yet her goitre steadily increased despite treatment. She tried Saratoga and other spas without benefit, and then went under the care of a specialist, in whose hands a cure was virtually guaranteed. Ergot internally and hypodermically into the tumor, bromine and iodine, cannabis Indica and veratrum, all failed to afford relief, and, her dyspnœa having at the end of the third year become almost unbearable, additional advice was procured. I have been unable to secure a history of what measures were adopted after this time, but the failure to do so is unimportant, as matters were in no way improved. Through a relative whose family I attend, she casually introduced the subject to me, and, her usual attendant and the consultant first called in willingly resigning the case, and she declining further attention from the second, I took charge of what had in the past at any rate been certainly an unpromising problem. With drugs faithfully tried, almost nothing had been accomplished: their best service had been merely temporary. All medicinal measures were at once abandoned. Beyond some dyspeptic symptoms, due doubtless to heroic bromide prescriptions, and the natural depression of spirit at what seemed a lingering death, she was in other respects in better health than might be expected in one whose life was, as she described it, a burden. She had at times a tendency to menorrhagia; otherwise her menstrual phenomena were normal. Her pulse varied from 120 to 155. There was hypertrophy, though not excessively so, of the heart, but no pronounced valvular le-

sion. The eyeballs were decidedly prominent, the lids barely covering them whilst the patient was asleep. The neck measured seventeen and a quarter inches round,—an increase of how much not then known. To test the relative value of galvanic and induction currents, she was faradized daily for a week, without any benefit either apparent or felt. The current was applied to the cervical sympathetic, and centrally to the solar plexus. Then galvanism was instituted, the applications being made in a similar manner,—first to the sympathetic, one pole being placed centrally at the base of the brain, and the other on the anterior border of the sterno-mastoid, it being moved from the auriculo-maxillary space down to the clavicle, and up again first on one side and then on the other. After the first week, central galvanization was added, one pole over the solar plexus, the other traversing the spinal column. The duration of the applications varied from five minutes at first to half an hour at farthest, the strength of current being regulated according to circumstances, usually from ten to fifteen cells comprising the circuit. More than twenty elements provoked giddiness at any time. After the second week amelioration of her dyspnœa and circulatory disturbance was acknowledged voluntarily, and in four weeks the neck was one inch less in circumference; in six weeks the ocular protrusion was notably lessened, the night was comfortably spent invariably, the leaning towards excessive menstrual flow was checked, the appetite was improved, and her natural buoyancy of spirits was rapidly returning. In eight weeks the neck was two and a half inches smaller, and the pulse was reduced under 100, except under great excitement by fast walking up-stairs and the like. In thirteen weeks the neck was not noticeably enlarged, and the exophthalmos was so slight as to be unimportant. It remains about the same now, two years after her recovery, and no one would see anything peculiar in her appearance. The collar fits her loosely at thirteen inches. After the third month the applications of the battery were reduced to bi-weekly, with short séances of from five to ten cells, and at the end of six months she was discharged and considered herself cured, in which opinion I concurred, and nothing has as yet led me to alter my idea. She remains unmarried, and what may result from a change in her sexual relations remains to be seen,—a matter of interest to me, as the next case undoubtedly shows that in some persons, at least, sexual excitement has an unfavorable effect upon Basedow's disease.

F. A., 20 years old, consulted me because of a gradual enlargement of her neck, and, as her mother had for many years labored under a fibro-cystic goitre, she became somewhat anxious as to the probable outcome of the deformity, especially as she was shortly to be married. The lady was a victim to neuralgic dysmenorrhœa, with cervical uterine congestion, and associate leucorrhœa, which appropriate local treatment relieved. Her dysmenorrhœa was greatly reduced by quinia and arsenic, but her goitre, although not decidedly worse so far as thyroid protrusion went, was aggravated by all the symptoms of the exophthalmic type within six months after coming under my care. Space need not be taken to describe her symptoms in detail: suffice it to say, her marriage was postponed. She was placed upon full doses of digitalis and iron, all exciting causes restrained, and under this, with the continuance of the arsenic and quinia, to which ergot was shortly added, in a few months her most aggravated symptoms were relieved. Every indication of a speedy cure being observed, for good reason her nuptials were permitted. For several weeks preceding her marriage, the disease was to herself, her parents, and myself daily disappearing; it was most certainly at bay. On her return from the bridal tour, three weeks subsequently, in every particular she was worse; the neck was again enlarging, the pulse was up above the hundred, the eyes were staring, carotid pulsation was overmarked, and rest from any but the slightest exercise was imperative. Although no uterine disease existed, beyond a little pre-menstrual pain, every act of coition intensified the cardiac disorder, and the increased swelling of eyes and thyroid alike were pronounced at my morning visit, had this act occurred during the preceding night. The neck, by careful measurement on such occasions, was enlarged a full half-inch, and remained so for about forty-eight hours, when it would disappear, or return, strictly speaking, to the usual circumference as existing before the sexual intercourse. It does not appear that this aggravation was due simply to ex-

citement, because sexually neither of the parties was unduly ardent either before or during the act, nor did any exhaustion follow cohabitation, such as would present itself under undue stimulation. The phenomena to me were strictly due to reflex action through the sympathetic. Marital relations in this respect were suspended, and all medicines stopped. She was placed at once under galvanism daily, but, unlike the first-noted patient, she bore easily twenty or thirty cells without discomfort. The applications were managed as in the case of Miss E. M. H., and were kept up for one month, when very decided improvement was in all respects manifest. Intercourse was permitted for a few times without apparent ill results, but then stopped, and the electrical treatment reduced to four applications each week, and at the end of four months she was completely free from any evidence of her original difficulty. She has had no return in now nearly two years, but she either has, or imagines she has, a fulness of the throat always during the morning succeeding connection, especially in case of previously prolonged abstinence. Her menstrual derangements are gone, and her general health is excellent. She has never been pregnant. Although *temporary* increase of size in the thyroid gland under sexual excitement has been referred to by a few writers, the fact is generally unknown to the profession at large, and, as I am fully satisfied—not alone from this case, but from other sources of information—that such is the fact, I note the point particularly.

Mrs. S. L. was referred to me by a friend, with a view to treatment by electricity. She had been a sufferer for something over two years, and was becoming worse daily. The pulse *averaged* 120, eyeballs were decidedly prominent, palpitation and cardiac hypertrophy pronounced, the neck increased by three and one-half inches, menses in abeyance, and general health visibly reduced. She had been under good professional care both by her own regular attendant and his *confrère*, but recovery seemed uncertain, the disease holding its own for some months before I saw her, and a repulsion being developed towards further medication. Faradism had been tried at one period in her progress without benefit, but the method and mechanism employed were not reliable. She declared herself, however, relieved of much oppression for an hour or two after these applications, and to fully test the matter she was thoroughly treated by induction currents, locally and generally, for one month, nothing else being done beyond attention to diet and rest. There was now an evident amelioration, not alone of her distress, but her personal appearance was obviously improved; yet, although satisfied with this gain, it was deemed better to adhere to galvanism as in the first two cases narrated, because of its more rapid action as a curative agent and its undoubtedly greater adaptability for the end aimed at. Double the benefit at least was attained at the end of the next month under the constant current as compared with the faradic. Without entering into details, which would merely recapitulate largely what has already been written, suffice it to say that in four months she was apparently in her usual health as before the advent of her goitre. There yet remains some cardiac hypertrophy, but palpitation is rare, even under excitement. Beyond this she would stand rigid examination without fault being detected. Menstrual disturbances were frequent before her illness, now none exist. For eleven months she has remained well and able to see to her family cares, which are somewhat exacting.

A single swallow does not make a summer, and these cases, although good examples of the value beyond question, in my opinion, of electrical treatment, do not, of course, suggest that other means are unreliable and that this method is infallible. I am aware that electricity has failed in competent hands to relieve, or rather radically cure, exophthalmic goitre, and that undoubted cures have been wrought without it, but it has its place, nevertheless, in therapeutics, although, like many another good thing in the long array of remedies, it lies buried out of sight to the majority of the profession. The empirical manner of its use in disease has led many thoughtful men to reject it, and the inherent difficulty of rational employment and care of apparatus deters others from thoroughly testing this invaluable ally. Doubt has also been expressed by gentlemen supposed to be familiar with practical electro-therapeutics as to successfully reaching the sympathetic, particularly in the solar plexus, by any form of current; and as intelligent operators are opposed to hap-hazard methods

of any kind, it may be that the failures alluded to above have arisen from doubts of this nature, or from a loose attention to the procedure, if tried. From the anatomical arrangement of the neck, it follows that in influencing the cervical sympathetic the pneumogastric also must be involved, and it only needs well-conducted experiments to show that the heart, and therefore the entire circulation, is readily acted upon by either current. To myself the galvanic seems the better adapted, it being prompter in action, more comfortably borne, and showing more definite and durable ultimate results. Although not at all affected by goitre of any kind, I have suffered from functional palpitation for many years, and at all times the cardiac excitement is readily controlled by moderate currents of from twenty-five to forty modified Daniell's, developing an electro-motive force of from eight to twelve milliwebers. That the sedation is not resultant from preconceived ideas of my own is evidenced by precisely similar effects being had in patients under treatment for other affections, whom I always utilize experimentally whilst able to do so. Whilst galvanism at times stimulates the heart to increased action in a limited way, its ultimate action, even in such persons, is to soothe; and no better test can be made than to personally undergo general applications before retiring, after an exhausting day's work, or when ruffled by the cares of serious cases or the quips of ill-natured and ungrateful people (if you are open to such impressions). Other cases in the practice of friends, which I have been favored with seeing, and which were managed in whole or in part as described, have terminated favorably, and in exact proportion as the electrical manipulations were more or less perfect.

Since the above was in type, a case at present under my charge, which is satisfactorily progressing towards recovery, has been treated by *static* electricity, the machine employed being a "Toepler" modification of the well-known Holtz apparatus. The patient is insulated, thoroughly charged by Radcliff's positive method, and sparks drawn from the thyroid. Galvanism is, as usual, mainly relied upon, but there is without doubt a notable acceleration in her recovery since instituting treatment by *static* applications. A report of several cases of varying nervous affections thus treated was published in another journal recently, and results of further investigation in this direction will be given in a future article.

246 North Twentieth Street.

THE DEFECTS IN OUR PRESENT MEDICAL EXPERT TESTIMONY; WITH A PROPOSED REMEDY.

BY JOHN J. REESE, M.D.,

Professor of Medical Jurisprudence and Toxicology in the University of Pennsylvania.

THAT the medical expert testimony of the present day is defective in many particulars is a fact so generally admitted by both court and counsel as to have occasioned a very general distrust in such evidence among the legal profession. This is unfortunate, since very often, in criminal cases more particularly, the testimony of the well-instructed medical expert may shed a flood of light upon abstruse and difficult points, which otherwise could not be understood by either court or jury. Whence arises, then, the apparently growing distrust of this sort of evidence in the minds of men whose whole mental training leads them to subject every sort of testimony to the most rigid scrutiny? I think the answer to this question may be referred to two causes: *the character of the experts themselves*, and *the vicious mode of using such testimony by counsel.* On each of these points I desire to offer a few remarks.

First, as to the character of the expert. I particularly refer to his *professional* character. I need hardly stop here to remind the reader that an "expert" witness differs from an ordinary witness, in not testifying to mere facts,—such as what he has seen or heard of the case,—but he gives his *opinion* on the facts testified to by others. As the term implies, the "expert" must be *skilled* in the particular matter in which his testimony is required: he must have made it his special study. But how many of our criminal trials, especially, are disgraced and degraded by what has been sneeringly termed the *war of the experts!* It is a notorious fact, that in nearly every criminal trial, and in many civil cases involving the question of insanity,—particularly will cases,—it has become too much the fashion to pit one medical expert against another; sometimes there may be several on either side, each one deliver-

ing his "opinion" diametrically opposite to that of his opponent. Undoubtedly this defect is partially to be ascribed to the faulty manner in which these experts are employed by counsel; but it is much more largely due, in my opinion, to the faulty character of the experts themselves,—the incompetency of the individuals who have voluntarily thrust themselves into this responsible position. For, be it remembered, neither the mere title of doctor, nor even the well-earned reputation of the general practitioner, does by any means imply proficiency as an *expert*. For example, in a homicide case, involving the life or death of the prisoner, where the main evidence of the prosecution depends upon the identification of certain suspicious stains upon the clothing, or upon a weapon discovered close by, who but the well-practised microscopist shall presume to solve the all-important question? So, in a poison case, who but the practised toxicologist shall venture to give an "opinion" as to the real cause of death, or of the nature of the alleged poison? Who but he is competent to decide the finely-balanced question whether the symptoms and pathological appearances were really due to poison or disease? And who but he shall presume to criticise the chemical analysis, and detect and expose the blunders of careless and incompetent experimenters, which, but for his sagacity, might have doomed an innocent victim to death?

All this is plain enough; nobody will dispute it. Yet the fact remains as notorious as ever that medical men of excellent general professional character, but who have not made these branches of science subjects of special study, are tempted to place themselves on the witness-stand, in certain grave trials, in opposition to others of acknowledged skill and reputation; and the lamentable result is that as the court does not, or will not, see the difference between the good "expert" and the bad,—the genuine and the false,—being already prejudiced against all alike, it will treat all alike; and regarding one as good as the other, it will so state it to the jury in the final charge. This is no fancy sketch: I have known the counterpart in my own experience, in a case in which the prisoner was convicted and sentenced to punishment upon just such "incompetent" expert testimony, as was afterwards abundantly proven. Now, can any one doubt that, if *all* the experts engaged in any cause were persons of equal skill and experience, there would be far less likelihood of a conflict of opinion, than where some ignoramus, confiding in his general knowledge, unhappily displays himself for the occasion, and undertakes to differ from his acknowledged superiors on the other side? If, for instance, *all* the experts concerned in a poison-trial were men equally well grounded in every department of toxicology, as also in their general training as physicians, it is scarcely conceivable that they should differ much, if at all, as to the proper modes of testing, and as to the results attained. Certainly we should then witness nothing of the disgraceful "war of the experts," before alluded to.

Another well-founded allegation is that in certain criminal and will-cases, experts are sometimes selected by opposing counsel expressly for the purpose of supporting particular views, on account of their known bias to some "hobby" or preconceived notion. This is unquestionably a great evil, and if not remediable, it might of itself be sufficient to destroy all faith in medical expert testimony. But is it remediless? We may hope not, since the cure for it seems simple enough, namely, that *all* who undertake to act as experts shall be thoroughly *skilled* in the matters on which they are to give testimony, and shall be completely free from any bias or prejudice. Another part of the cure consists in the avoidance by counsel of the vicious practice above alluded to. Occasionally, however, the difficulty would seem to be with the court, doubtless through some distorted ideas on the subject. Thus, I have known, in a certain criminal case, in which there happened to be two medical men acting as experts on one side, and but one on the other (although the latter was admitted to be the more thoroughly trained witness, both by practice and position), the judge took the ground, and told the jury, that one expert was just as good as another; and that, as in this case there were two against one, the majority ought to carry the day; and so he ruled!

There is a graver fault still, chargeable against medical expert testimony, though we may hope it is not so prevalent as the others, namely, where the experts make their views the subject of barter to the parties employing them, and where their fees are made "conditional" on the influ-

ence of their testimony. Certainly such dishonesty cannot be too severely reprobated. But I would state my convictions that no medical man of principle would ever lend himself to such dishonorable traffic. That such instances may have occurred, I do not undertake to deny; unhappily, the medical as well as the legal profession is occasionally disgraced by such unprincipled charlatans, who not infrequently connive together in their nefarious work.

It has always seemed to me that the true method for the expert to pursue, before engaging in any case, is to make himself thoroughly master of all its bearings. Suppose, for example, that his services are desired by the defence in a poison case, or in any other case of homicide. Before consenting to undertake it, he should carefully examine (which he is privileged to do) the sworn reports of the physicians who made the post-mortem and chemical examinations of the deceased, together with the line of treatment adopted. If, in his opinion, from the character of these investigations the charge of murder cannot be logically sustained, either through a defective autopsy, a careless, imperfect, or unskilful chemical analysis, or an improper medical treatment, then he is not only justified in taking up the case for the defence, but he can hardly escape the responsibility of not so doing, since otherwise a most grievous wrong might be perpetrated upon a possibly innocent being.

The important question now occurs, Is there no remedy for these admitted evils in our present medical expert testimony? I reply, None in our country, as the law stands at present. With us, the courts exercise the greatest latitude in the matter of medical experts, allowing the title and the prerogatives to any and every person who has assumed the name and profession of doctor. To be sure, the stereotyped question is usually put to the witness offering himself as an expert, if he has given particular or special attention to the matter now under consideration? but, of course, the ambitious witness always supposes that he has done so, and gives an affirmative reply. But there is no positive guarantee that this is so; indeed, in the majority of cases the chances are against it.

The only true method, it seems to me, of meeting the difficulty is to adopt an arrangement somewhat similar to the Prussian system, which is admitted by all legal physicians to be the best known, although perhaps not absolutely perfect. A modification of this, I think, might readily be engrafted upon our American practice, somewhat after the following plan. Let there be appointed by the proper authorities, for each of our States, one or more thoroughly educated practical physicians, properly trained in all the details of medical jurisprudence, including toxicology. These shall be known as the "State Medical Experts." The duties of such an official shall be to attend at every criminal trial in his district, when summoned by the court, *as the skilled witness of the prosecution.* He shall sit with the judges throughout the trial as the *amicus curiæ*, giving special attention to such points as may require the professional assistance of medical experts, so that he may enlighten the court and jury on the technical aspects of the case. He shall be prepared to make all the requisite medical, microscopic, and toxicological investigations in any case requiring them. Thus, in poison cases, the district attorney would be saved the annoyance and expense of hunting up a suitable toxicologist. By his expert testimony the prosecution would always be guided. There would be no necessity of appeal from his decision.

He should possess a chemical laboratory, and all other appliances necessary to the thorough fulfilment of his duties. Although summoned by the State, he is by no means to be regarded in the light of a partisan, any more than the judge upon the bench. He can have no temptation to a bias for either side. He would render his "opinion" grounded solely upon truth; and both his moral and professional character and acquirements should be such as to preclude the possibility of error, so far as human infirmity may admit.

In most criminal trials the testimony of such an official expert, commanding, as he ought to do, the respect and confidence of all parties, would be deemed fully adequate to settle all scientific questions by both sides,—the defence as well as the prosecution. But there would, doubtless, arise some cases in which the defence would claim the right (which, of course, should always be conceded) of employing their own expert witnesses. This, however, need not in the least interfere with the State officer, since, if the former be thor-

oughly competent experts, they will be the less likely to differ with the latter, as I have before attempted to show; and even if they should perchance differ with the State expert, the prisoner would still enjoy all the advantages which he would possess under our present system.

In States as populous as Pennsylvania, there should, I think, be at least two State experts,—one for the eastern and one for the western district. The salary of such an official should, of course, be sufficiently ample to command the very best talent, inasmuch as the medical officer would necessarily be compelled to relinquish all practice, and devote his time exclusively to his arduous State duties. But even in an economic point of view the State would probably be the gainer, inasmuch as the aggregate yearly amount which the various counties of the State are compelled to pay out for toxicological and other professional examinations in their respective criminal trials, would equal, if not considerably exceed, even a liberal salary allowed to the State expert.

Two difficulties only present themselves to my mind in the way of practically carrying out the above system in the different States of our country, and these, I believe, are by no means insuperable. The first and greatest difficulty, I presume, would be in the mode of appointment of the State official. Unquestionably, such a dignified office should be lifted high above all political favoritism. It should be bestowed only upon the most competent. But who shall decide this most important question of competency? Obviously, *not* the legislature, for it can have no means of judging of qualifications of such a character, except through the representations of constituents; and everybody knows that all such representations must partake largely of the worst forms of political bias. Neither should the responsibility be laid upon the governor of the State, for a like reason. The State Medical Society might by some be deemed the proper body at least to suggest the suitable appointee to the civil authority; but I fear that there might be, even in this most respectable body, some risk of cliquism, ring-influence, or favoritism. On the whole, I believe that the safest body with whom to lodge the responsibility would be the judges of the Supreme Court of the State. Their high official position places them, almost certainly, beyond the risk of foreign sinister influence in such a duty. They might act in full council, after due consideration of the merits of the different candidates, and their decision, to be determined by ballot, would doubtless be regarded as impartial, and would be accepted as satisfactory by all.

The other objection (as some might consider it) might be the difficulty, and even, at times, the impossibility, of the State expert's being able to answer all the calls of the different criminal courts of his district. Of course he could attend only one at a time; and a difficulty would arise if two or more trials were going on simultaneously. This would have to be remedied either by the appointment of additional State experts in very populous districts, or by a mutual arrangement among the different county criminal courts, so that the cases might not interfere with each other.

I have given to this subject of Medical Expert Testimony considerable thought and attention, and from a pretty extensive experience I am led to believe that the plan above suggested, with possibly some modifications, is the one best adapted to remedy the evils of our present imperfect system. I should be glad if these remarks would have the effect of stimulating the ideas of such of the readers of the *Medical Times* as feel an interest in this most important subject, so that we might have the benefit of their views in a future article.

316 South Twenty-First Street.

CARBOLIC ACID APPLICATION TO ERYSIPELAS.

BY S. J. RADCLIFFE, M.D.,
Washington, D.C.

AN abstract in the *Philadelphia Medical Times* of February 26, translated from an article in the *Deutsche Med. Wochens.* of January 22, under the title of "Carbolic Acid Application to Erysipelas," giving a formula "which has been employed for several years by Dr. Rothe, of Altenburg," to arrest the course of erysipelas, reminds me of a severe case of erysipelas of the right lower extremity (E. ambulans?), just convalescent, in a woman, Irish, of good constitution, but rather feeble from age, over eighty years old, which began as a central point in a large, inflamed bunion on the metatarso-

phalangeal articulation of the right great toe and extended over the entire limb to the abdomen and over the buttocks, a large bed-sore rapidly forming over the sacrum, which was treated successfully with carbolic acid and olive oil, after other applications had seemed to fail to benefit the case.

I first saw the case February 3. She had been suffering for some days from a large inflamed bunion on the large articulation of the right great toe, which the family undertook to treat with some simple remedies. Finding the condition of the woman getting materially worse, the toe and foot assuming an alarmingly erysipelatous condition, I was sent for.

I found the foot and leg, up to and a little above the knee, uniformly red, shining, tense, hot, tender to the touch, and largely swollen, the cellular tissue and the derma infiltrated and pitting on pressure, pulse 98, temperature 101.5°, tongue furred, mouth dry, thirst, bowels open, urine not free, high-colored, depositing urates, some hebetude, and considerable indifference as to her condition, especially as to her evacuations, which she would pass involuntarily if not watched.

The case looked so unpromising, considering her age and surroundings,—though I had seen her come through safely several severe attacks of illness,—that I notified the family of the danger attending the disease and of the small chance she had to survive the attack.

I began the treatment, as is my custom, with non-irritating applications to the inflamed parts, such as wheat flour, starch powder, or zinc oxide and starch powder,—believing these, after much observation and experience, to be the best,—directing the zinc oxide and starch powder, as in this case, to be thickly and thoroughly dusted over the surface with an ordinary powder-puff, and ordered the conventional muriated tincture of iron and sulphate of quinine to be given every three hours, alternated with half-ounce doses of the liq. ammoniæ acetat., and fluid diet of milk and beef-tea.

I continued this treatment until the fourth day, with no apparent amendment of the symptoms, the erysipelatous inflammation having advanced, step by step, by gradual and distinct extensions, above the knee to the middle of the thigh, large red spots appearing above, and the lower borders approaching and filling in the healthy skin, and the lymphatics were swollen and tender and the glands enlarged. I now directed the foot and lower part of the leg to be enveloped with lint saturated with dil. sol. lead acetate, continuing the dusting the rest with the zinc oxide and starch powder, and continuing also the iron and quinine alternated with 10-gr. doses of sodium sulphite, and the same diet.

On the seventh day the inflammation had extended above the groin by distinct, advancing, isolated patches of redness, some large spots of redness appearing on the lower part of the abdomen and over the buttocks, a large bed-sore having also rapidly formed over the sacrum without the knowledge of the patient or even the nurse, and which was accidentally discovered by turning her over.

The limb was now of a darker, duskier hue, not so shining or red, but enormously swollen, with a feeling of burning and weight, and doughy, leaving deep impressions in parts on pressure, which would remain some time, with numerous small vesicles scattered over the limb, and the whole contour had the appearance of approaching gangrenous condition.

I then ordered an application to be made freely with a large, soft feather of carbolic acid ℥ii to olive oil ℥iv, the parts to be covered with lint, the dressing to be repeated three times daily, the other parts about the abdomen and anus to be protected and dusted as before, and the medicine and diet continued.

Relief began almost at once. The next day amendment was plainly evident. The swelling gradually subsided, the redness soon faded away, and by the tenth day the limb was reduced to almost the normal size, the cuticle peeling off in large flakes irregular in size and shape, some an inch or more in breadth, leaving a healthy condition beneath; and the bed-sore was in a healthy condition and healing well.

The pulse ranged during the treatment from 98 to 110, and the temperature from 101.5° to 103.5°. Much thirst was manifested throughout, with some febrile exacerbation during the evening, showing considerable constitutional disturbance, though rather of an adynamic type. The patient was very indifferent as to what was done for or given her until towards the last, when she exhibited great desire to recover.

I ceased to visit her regularly after the twelfth day, after which date she convalesced rapidly.

The points of interest in this case are—1, the age of the patient; 2, the persistent spread, extent, and malignancy of the inflammation; 3, the bed-sore forming in so short a time; 4, recovery apparently through the agency of carbolic acid. Rarely, I think, are conditions such as these presented in a single case of this description; and it is for this reason that I offer it for record.

1211 F St., N. W.

CASE OF STIFF KNEE CURED BY FORCIBLE FLEXION.

BY GEORGE HAY, M.D.

ABOUT the middle of December, 1880, S. C., a man aged 38 years, called at my laboratory. At that time he was employed in one of the floating coal-offices on the Alleghany River as a species of shipping-clerk and to make himself generally useful. He stated that about the last week of November, or about three weeks previously, he and another man were using a lever to pinch what is called the "apron" or gangway away from the float, which had by some means got "fouled." The other man suddenly released his hold upon the lever, and, the whole weight of the "apron" being upon the other end, S. C. was thrown upwards to a height of fifteen feet, from which height he fell upon his left knee. According to the man's own story, there had been considerable effusion of fluid into the synovial sac, but when I saw him (three weeks after the accident) the fluid had been entirely absorbed. The patella appeared unusually large, but, on examining for comparison the uninjured knee, I found that such was its normal condition. The patella was freely movable over the joint. On examining the joint itself, I found that the internal condyle of the femur seemed larger than usual, but could not make out any intercondyloid fracture. The leg was completely extended, and the patient could not flex it at all. Fixing the thigh firmly by placing the patient face downwards and sitting astride his thighs as if on horseback, I found that by using considerable force the extremity of the limb at the great toe could be made to move through an arc of about three inches, the centre of the circle being an ideal point in the articulation of the knee. This, of course, implied but little motion in the knee-joint, but at the same time demonstrated the absence of ossific union of the bones, and led me to conclude that the anchylosis was only fibrous.

At this time I was serving on the staff of the Pittsburg Free Dispensary, and, as the patient was very poor, I advised him to come thither the following day, and stated that I would try to secure him a movable joint. Next day the man was laid face downwards upon the table at the Dispensary; I sat astride his thighs, and, using my utmost strength, both hands at the ankle, I forcibly flexed the leg upon the thigh and broke up the adhesions, which snapped audibly. I advised the man to get upon his knees every morning and evening, and prescribed a cooling lotion. In about a week I visited him at his home and found the joint stiff again, but not so much so as formerly. Again I broke up the adhesions forcibly, and prescribed an embrocation of oil, chloroform, ammonia, and camphor, regard being at the same time paid to his general health. I told him to get a crutch; he said he was too poor to buy one. I called upon his employers and asked them to furnish the man with a crutch, as he had been hurt in their service; they never did so, but, with the characteristic meanness of the average employer, they soon after discharged the man from their employ. Improvement, however, was rapid after the second forcible flexion, and now, nearly four months after the injury, the joint is quite as movable as that of the other knee. There is even yet slight thickening of the internal condyle of the femur, but it is diminishing; pain has disappeared, and the man can walk as well as ever he did. So far as I am aware, the books do not recommend such treatment as above described, and there are, no doubt, many cases in which it would not be advisable; but these would require to be carefully discriminated from those in which it would be suitable.

Analytical Laboratory, 45 South Diamond Street, Alleghany City, Pa.

CHRONIC COPPER-POISONING.

BY JOHN GILLESPIE, Jr., M.D.

THE following case is of some interest from the fact that the symptoms ensued upon employment in one of the arts, and because it presents some features which differ from those usually said to occur in a case of this nature. Further, it shows, negatively, the value of so simple a precaution as wearing a sponge before the mouth.

On account of the rapidity with which the symptoms supervened, it partakes of the acute character, although it is probable that the sore throat was caused by the particles of the powder acting mechanically.

N. C., æt. 35, was admitted to the wards of the Pennsylvania Hospital under Dr. James

H. Hutchinson, January 24, 1881. Three weeks previous to this the patient had begun working in a lithographing establishment, her work being to gild the lithographs. The powder used (bronze-powder) is largely composed of metallic copper.

The other work-people wore sponges over their mouths, but, through ignorance, the patient neglected to do so. After a few days her throat became sore, and she was troubled with a severe cough, but suffered no other inconvenience until three days before her admission to the hospital, when she was attacked with very severe pain in the abdomen, and vomiting, but no diarrhœa, the bowels being constipated. After the first day there was no vomiting.

Upon admission, the patient was anæmic, and there was a bronze discoloration of the face and hands. The hair was dry, the abdomen was greatly distended, and there was severe pain referred to the region of the umbilicus. The bowels were constipated. Neither the teeth nor gums presented any appearance of the green line said to be present by Dr. Clapton,* but, on the contrary, there was a faint purple discoloration of the gums, as is said to occur by Sir D. Corrigan.† The sleeves of the underclothing near the axillæ and at the elbows were stained green. There were headache and slight dizziness, with muscæ volitantes.

During the entire period of the illness there was no fever. The urine was examined for copper, but none was detected. The fæces when first voided were of a greenish hue, but, on exposure to the air, became dark red. Copper was detected in the fæces by the following process. A mixture of equal parts of fecal matter and nitric acid was evaporated and strongly heated, more nitric acid added, and the evaporation repeated several times. The residue was then exhausted with distilled water and filtered, and the filtrate tested by the usual methods.

The treatment consisted of the exhibition of magnesium sulphate half an ounce twice daily, and seven drops of the deodorized tincture of opium every four hours to relieve the pain. Abundance of milk was given as the principal food for several days.

The patient was discharged cured February 14.

1332 South Broad Street, Philadelphia.

Sudor Anglicanus.—An epidemic of the curious malady known as sudor Anglicanus (*suette miliaire*) has been reported as occurring in l'Ile d'Oleron, France. One hundred and forty deaths occurred among twenty thousand inhabitants.

* Clinical Society Reports, vol. iii. p. 7.
† Dublin Hospital Gazette, September, 1855.

PSORIASIS IN A CHILD UNDER FOUR YEARS OF AGE.

BY H. W. STELWAGON, M.D.,
Physician to the Philadelphia Dispensary for Skin Diseases.

As is well known, the first attacks of psoriasis occur most frequently at or approaching the time of maturity. Down to the age of ten it is not uncommon, but below this period it becomes very infrequent. Its occurrence in a child of five or six years is extremely rare, and in children under four years but few cases have been reported.

The following case came under my care during the early part of last year, and, as the subject was a very young child, it is worth recording:

The child, a male, was in its fourth year (lacking three months of being four years old), was well nourished, robust, and of healthy parentage. So far as could be ascertained, there existed no hereditary tendency to psoriasis, although one of the parents had been the subject of an occasional attack of eczema during early life.

On the trunk, arms, and legs were numerous scaly papules about the size of a split pea. On the back were several patches of the diameter of a ten-cent piece. On the extensor surfaces of the elbows and knees the patches were confluent and the disease well marked. The eruption was but slightly inflammatory. The scales were abundant, and of the peculiar pearly color so characteristic of psoriasis. The eruption had first appeared on the extensor surface of the elbows about nine months prior to my seeing the case, the child being then just three years old. Subsequently the knees were likewise attacked, where, as on the elbows, the patches at a later stage became more or less confluent. Afterwards other regions of the body were affected. The larger patches seemed more inflammatory. With the exception of the patches on the elbows and knees and the few on the back, the eruption was typical of the variety known as psoriasis guttata. Mere removal of the scales from some of the larger patches would cause slight bleeding at points; on others, however, this was not so easily produced. Itching had been troublesome at first, but had apparently ceased to be of much annoyance. The case had already been once under treatment at one of the dispensaries, but without much benefit,—doubtless due to the negligence of the mother.

The child was ordered small doses of Fowler's solution three times daily. The case was under observation, at intervals, for three months, and then disappeared from notice. During this time treatment was but spasmodically carried out, and, necessarily, with but little, if any, improvement.

NOTES OF HOSPITAL PRACTICE.

HOSPITAL COLLEGE CLINIC, LOUISVILLE.

SERVICE OF PROF. DUDLEY S. REYNOLDS, M.D.

Reported by A. H. KELCH, M.D.

CASE I.—Theodore Merkel, æt. 49, has suffered for the last three years from a disease of the throat and ears. He has been greatly annoyed by roaring and buzzing sounds, and occasional earache, sometimes amounting to acute pain. You may remember that when he was here first I found him suffering with what is generally called an acute catarrh, but what is in fact a subacute rhinitis. You may remember also that I announced to you, after examining his ears, that the drum membranes were collapsed. This condition was brought about by narrowing of the faucial orifices of the Eustachian tubes: the external atmospheric pressure upon the tympanic membrane being greatly in excess of the pressure within the drum cavity, the membranes of course, yielding to the superior external pressure, became gradually depressed. This condition of itself was sufficient to account for the earache, and, in fact, all the pain with which he is often tormented. Narrowing of the Eustachian tubes is always present in inflammation of the lining membrane of the naso-pharyngeal spaces. Now, catarrhs become chronic in debilitated subjects only. Mr. Merkel is a tailor by trade; he sits upon a bench in a close room, breathing a vitiated atmosphere, and it is no wonder he suffered from catarrh. His sedentary habits alone are sufficient reason for the persistence of local inflammations in the nasal and naso-pharyngeal and, for that matter, the bronchial mucous membranes. Mr. Merkel was during the first year or two afflicted greatly with cough; his voice gradually failed, until he was finally unable to engage in anything like satisfactory conversation. You remember when he came here it required great effort upon his part to vocalize, and close attention upon your part to understand what he said. He spoke with so much difficulty that the interval between words amounted to several seconds, in some cases quite a quarter of a minute; his articulation was bad. Examination revealed what appeared at the time to be paralysis of the left vocal cord. His trachea contained no morbid secretion. The lining of the nose, however, and naso-pharyngeal space was the seat of considerable inflammatory deposit. He had lost a portion of both inferior turbinated bones. Now, in the presence of all these morbid conditions, it is reasonable to infer that Mr. Merkel's disease began with constitutional debility, with these varied favorable conditions for the development of a parenchymatous rhinitis kindled from an acute catarrh due to purely atmospheric causes. Mr. Merkel's profession would forbid his engaging in anything like regular conversation. It necessitates that the head shall be inclined forward: the chin making pressure upon the larynx, renders conversation unpleasant. Therefore, from long habit, he has talked but little, until, finally, with the disease augmenting occasionally in severity, his ears becoming affected, his disposition to engage in conversation has grown gradually less and less. Not hearing acutely, he naturally felt inclined to avoid conversation, lest other persons should become aware of what was to him beginning to be a serious affliction. When he first came here I introduced the Eustachian catheter, and, with the aid of Politzer's air-bag, inflated the drum cavities of both sides. Since that time the process has been repeated at intervals of a few days, and he is now able to hear almost perfectly. You observe to-day he gives prompt answers to my questions; he speaks readily, and with as much clearness as most persons. The mere inflation of the tympanic cavities with air is not to be credited with all the improvement manifest in Mr. Merkel's hearing. The swollen, indurated condition of the naso-pharyngeal membrane has been greatly reduced by an occasional injection with the post-nasal syringe with a saturated solution of the muriate of ammonia. In addition to this, Mr. Merkel has been snuffing finely powdered white sugar, which acts as a gentle stimulant, and which has proven in his case of great service in bringing about resolution in the inflamed membrane. To stimulate the relaxed vocal cords he was directed to make use of benzoic acid lozenges made after the formula of the London Throat Hospital Pharmacopœia. The lozenges were taken one every four hours, and he has had an occasional dose of quinine. He has been directed to take salt-water baths at night, and to take an abundance of animal diet. To all these agencies com-

bined I attribute the improvement you now observe in his condition. To-day he hears well, his voice is good, his articulation wellnigh perfect; and, there being no longer any evidence of local disease in the nasal, pharyngeal, or laryngeal mucous membranes, the vocal cords appearing upon examination to be perfectly normal, Mr. Merkel is discharged, with the injunction to return to this clinic in the event he should again suffer the slightest symptoms of a return of his disease, either in the ears or the vocal organs. This is a case showing the necessity for minute and careful instrumental examination in order to make the proper diagnosis, and of course you understand that in the absence of a correct diagnosis the treatment must needs be irrational. I beg you never to believe for one instant that tinnitus aurium, atony of the vocal cords, and other similar phenomena are indicative of central lesions of the nervous system, until after you have made careful local examination of the parts affected. Now, it sometimes happens that in cases of syphilis all these phenomena occur, along with what appears to be a subacute inflammation of the naso-pharyngeal membrane; but in that case there will be more or less of local deposit, which distinguishes syphilis from almost all other forms of disease. Again, the local treatment will offer no substantial relief in syphilitic cases. You will, therefore, be able within a few days to determine the correctness of your diagnosis by the success of the treatment.

Case II.—Mrs. Y——, in April, 1879, came to me with plastic irido-cyclitis, floating masses of lymph in the vitreous chamber, a total blindness, with the slight exception that she was able to perceive light. The instillation of a few drops of a four-grain solution of atropine revealed the presence of posterior synechia. She had been suffering with great pain, was much emaciated, and quite nervous. She had suffered with violent temporal headache every day at particular hours, the pain lasting just so many hours, and gradually subsiding, leaving the patient much exhausted, when profuse perspiration would ensue and she was inclined to sleep. She had suffered from constipation of the bowels and greatly diminished appetite for three months before I saw her. There was upon the surface of the iris a number of yellowish tubercular elevations. These nodules were formed by the local deposition of plastic material. Now, I wish to say that these plastic nodules upon the surface of the iris or projecting from the pupillary margin I believe to be characteristic of syphilis. Whilst these are not present in all forms of syphilitic iritis, there can be little doubt of the syphilitic character of those forms in which the plastic nodules are present.

Mrs. Y—— had been unhappily married, and for a year had not lived with her husband. I asked her no questions, but, taking the peculiar manifestations of the disease in the iris as sufficient evidence of the syphilitic character of the disease, I at once prescribed iodide of potassium in ten-grain doses, ordered a saline aperient, and directed her to have five grains of the sulphate of quinine in solution three times a day before eating, and in addition to this she was ordered to use a four-grain solution of atropia every four hours. She was ordered a pair of London smoked coquille glasses to protect her sound eye from the light, and some general directions as to diet, etc., were given. Improvement began within the first few days, and she rapidly recovered from all signs of local disease, except impaired vision in the affected eye. She was, however, able, after a few weeks, to count fingers across the room, and finally to read $\frac{20}{LXX}$. I lost sight of her until a few months ago she came to say her vision was gradually becoming dim in this right eye. Careful examination disclosed the presence of minute opaque spots in the capsule of the lens, whilst the lenticular body itself showed opaque striæ. I saw her two weeks afterwards: the opaque spots in the lenticular capsule were greatly augmented in number and enlarged in size; the opaque striæ before visible in the lens had now given place to a distinctly marked and diffuse opacity. The eye was sensitive to light, and there was excessive lachrymation. The patient's general health was impaired. She was having quotidian headaches, and suffered from diminished appetite and from constipated bowels; the menstrual function had been disturbed; she appeared anæmic; her skin was rough, and discolored in places, presenting a slate-colored appearance. What appeared to be a proper course of constitutional treatment was at once begun, and an occasional drop of a four-grain solution of atropine was instilled into the eye. The general health improved, the photophobia and lachryma-

tion ceased, and she is here to-day to request the extraction of the cataractous lens, not with the view of restoring sight, because I have warned her of the improbability of any such result, but she wishes the lens extracted from this eye for cosmetic effect. She has consented to permit the operation without chloroform. Placing this speculum between the lids, I now proceed to make what is known as the peripheral corneal section. Introducing my knife in the horizontal line on the temporal side, I pass it forward until the point reaches the pupillary opening, when, by a slight depression of the point of the instrument, I engage the capsule of the lens, which I find very tough and resisting. The knife, however, now passes on, and I begin the counter-puncture in the horizontal line at the nasal side of the cornea, and by passing the knife rapidly on, you see, I complete the section. The iris floating in between the lips of the wound, I now seize it with the forceps and cut off about one-sixth of it with the scissors. The lens now presents itself, and by light pressure with the convex surface of Daviel's spoon upon the inferior margin of the cornea, the edge of the lenticular body engages the corneal wound above, and, you see, I readily tilt it out, and deliver it from the eye. I now, by gentle and careful manipulation with the spoon, cause the cortical portion of the lens-substance to flow into the central portions, and by gentle pressure cause it to escape from the wound, thus leaving a clear pupillary space, except for the plastic deposit in the substance of the capsule. You see now the operation has been done, and without great pain, as the patient has made no complaint whatever. I shall now proceed to close this eye with some dry cotton wool and strips of adhesive plaster, the dressing to remain for a week, unless some pain, or other evidence of local irritation, should make it necessary to remove it. Now, this operation was not done to restore sight to the blind eye, but to remove what to the patient was a source of great annoyance,—a white pupil. The operation for the extraction of the crystalline lens has been brought to great perfection. Whereas in former times it was considered a hazardous undertaking, it is now known to be one of the most harmless of all operations involving puncture of the walls of the globe. The operation I have done is precisely such as I do in many instances where the extraction of an opaque lens is done to restore sight in an eye previously blind. The chief danger in extracting the lenses from the eyes of persons in good health is in the liability to rupture the hyaloid membrane and allow the vitreous humor to escape. The late Mr. J. Z. Lawrence, of London, called attention to the fact that about one-fifth of the vitreous humor may be lost without serious impairment to the sight. Whilst my experience verifies this statement, I am always careful to avoid the loss of any vitreous whatever, and for two years now I have been fortunate enough in all my extractions to lose no vitreous. I feel that this result is in great measure due to the manner in which I open the capsule. I sometimes make the peripheral corneal section, sometimes the old flap, and sometimes the section of Liebreich. In a few instances I have had, after puncturing the eye with the knife, to complete the section with the scissors. I nearly always perform iridectomy before attempting to extract the lens. I sometimes incise the capsule with the point of the knife whilst I am making the corneal section, and I sometimes depend upon peripheral laceration of the capsule after the iridectomy has been completed. I have concluded that it is safest and best to pass the knife through the cornea on to the area of the pupil, then impale the capsule of the lens, pass the knife, on making the counter-puncture in the cornea, and at the same time dividing the capsule. Having previously dilated the pupil with atropia, this manœuvre frequently enables me to extract the lens without the necessity of removing any portion of the iris whatever. I have some magnificent results from this practice. If the iris does not flow quite out of the wound, there is no necessity whatever in the great majority of instances for the performance of iridectomy, and even in some cases where the iris flows out, if the lens escapes readily from its capsule, the cortical substance may be removed, the iris returned with a small spatula, the pupil contracting readily, and the corneal wound unites by primary adhesion, giving thus a perfect result in all respects. It is frequently necessary after an operation of this kind, when the eye has fully recovered, to perform a secondary operation, lacerating with needles the posterior capsule of the lens. It often happens that in

an eye which recovers promptly from such an extraction as has just been described, and which has apparently a perfectly clear pupil, the slightly opaque posterior capsular membrane offers sufficient obstruction to the entrance of light to interfere greatly with the acuity of vision. In such cases laceration of the posterior capsule is effected by the introduction of two needles through the corneal substance from opposite sides, impaling the opaque capsule upon the point of one, whilst the other needle is passed in close by the point of entrance of the first into the capsule. Using the walls of the cornea as a fulcrum, one of the needles is made to sweep around the other in such a way as to insure a wide laceration of the opaque membrane. As soon as it has been determined that the laceration is sufficiently large, the needles are withdrawn, the eye closed for a few minutes, and a drop of atropia instilled. In twenty-four hours it usually happens that the effects of this operation have disappeared. When the eye is no longer irritated, the adaptation of glasses usually gives a satisfactory result. So you see now that extraction of cataract, though a much more complicated operation than the old method of couching, yields far more satisfactory results. In fact, I consider extraction of cataract about as uniformly successful as the amputation of fingers, comparing the proportion of eyes lost from the one with the number of deaths by tetanus from the other.

TRANSLATIONS.

PILOCARPIN IN DIPHTHERIA.—Dr. Neumeister has just published (*Deutsche Med. Wochens.*, 1881, p. 95) the account of his carefully conducted experiments upon the employment of pilocarpin in diphtheritis. Twenty-eight patients were treated with pilocarpin in the Lazarus Hospital. Of these, five were adults, the rest children. The type of disease was severe. The patients were carefully watched, received nourishing diet and stimulants, and the adults took two to four milligrammes ($\frac{1}{30}$ —$\frac{1}{16}$ grain) pilocarpin every hour or oftener, day and night, while the children took $\frac{1}{60}$ —$\frac{1}{25}$ grain in the same way. The adults became salivated more frequently and more easily than the children, in one of whom, a strong boy, the medicine given day and night for ten days failed to excite the least symptoms of salivation. This failure in some cases and excessive salivation in others is attributable to personal idiosyncrasy. Where there were concomitant symptoms of scarlatina the absence of salivation was particularly noticeable.

In considering the influence of pilocarpin upon the course of the disease, Dr. Neumeister separates the adult cases from those of children. With regard to the latter, in no case could any favorable influence of pilocarpin on the course of the affection be observed. Even where salivation was produced, the disease ran its course apparently unchanged. There was no fall of temperature and no loosening of the false membrane, the diphtheritic process spreading continuously in the mucous membrane. In four of the twenty-three children tracheotomy was performed. Thirteen died. In eight cases the bad effects of pilocarpin were observed. In one case, after long use of the pilocarpin, albuminuria appeared. In six cases sudden failure and irregularity in the pulse supervened. In adults the influence of pilocarpin appeared, on the whole, favorable. Four recovered in a relatively short time: of these, three were salivated, with a rapid fall of temperature and marked general improvement in feeling.

Neumeister, therefore, upon the whole condemns the employment of pilocarpin in the diphtheritis of children: 1, because it is insufficient to excite salivation; 2, because, even when salivation has been induced, the false membrane is not loosened. "Why, indeed, should this occur?" asks Neumeister. "How should the excitation of the salivary secretion affect a process which is often so deep as to involve necrosis of the mucous membrane?" 3. Pilocarpin is to be condemned because in children it is a dangerous remedy, which, even in small doses, may give rise to weakness of the heart and threatening collapse.

PATHOGENESIS OF BLENNORRHAGIC EPIDIDYMITIS.—At a recent meeting of the Société de Chirurgie (*La France Méd.*, 1881, p. 245) Dr. Despres said that Ricord had studied this affection most thoroughly, his views having appeared in a communication to the Académie de Médecine, and in his annotations to Hunter's work. Despres himself thinks that the theory of propagation of the inflammation is not satisfactory. Suppuration of the surface does not descend to the epididymis. Epididymitis

itself does not present the appearance of a suppurative inflammation. In autopsies dilatation of the seminiferous ducts and retained spermatic fluid is observed. The patients have had orchitis at a period anterior to that at which the inflammation could have been propagated. Epididymitis shows itself not later than at the end of a fortnight. The spermatic fluid is secreted constantly, even during the severest and most protracted diseases. Blennorrhagic epididymitis occurs in patients in the vigor of life. The reason for this is that when blennorrhagia begins, coitus ceases; the testicles become painful; towards the sixteenth to the twentieth day the patient has an orchitis, especially if he goes about or is employed in heavy labor. Epididymitis, then, is in reality brought about by retention of spermatic fluid in the testicles when joined to this is some exterior cause of testicular engorgement. Why are not both testicles affected? Because, as the cause itself of epididymitis is only occasionally operative, so this cause usually manifests itself unilaterally. In some patients epididymitis develops after coitus, or after a nocturnal pollution; this is because after this the testicle functionates the more only to fill the seminal vesicles anew. Epididymitis may occur after blennorrhagia, catheterization, arrest of a stone near the ejaculatory ducts, fistula in ano, ablation of hemorrhoids, cancer of the rectum, because in each case compression is made on the ejaculatory canal. It is difficult to explain the affection by propagation of inflammation, but easy to explain it by compression of the ducts.

Therapeutics of Headache.—Massini (*Deutsche Med. Wochens.*, 1881, p. 101; from *Correspondenz-Blatt f. Schweitz. Arzt.*) recommends bromide of potassium, particularly in uræmic headache. Ergotin is useful in paralytic conditions, nitrite of amyl in spasm. Then follow quinine, caffein; but all these medicines fail sooner or later, and then recourse is had to narcotics. There is always fear, however, of morphiomania. Recently, croton chloral, in doses of five to eight grains every three hours until thirty grains have been taken, has been recommended in uræmic headache. Monobromide of camphor in gelatin capsules, in doses of three-fourths of a grain to six grains (in gastralgic forms), is also of use. Aconitia (the English preparation) in doses of $\frac{1}{60}$ to $\frac{1}{30}$ grain is highly recommended by Massini, who also suggests that the effect of these remedies may be increased by the external employment of ointments of aconitia and opium. Tincture of gelseminum in thirty- to sixty-drop doses in neuralgia of the fifth pair is, in Massini's opinion, an excellent remedy. [He fails to add the caution that this remedy sometimes produces very unexpected toxic results, and is altogether very much like a boomerang in the hands of the inexperienced. The weapon may be launched against the disease, but may easily miss that and hit the patient.—Ed.]

Final Result in the Radical Operation for Hernia.—H. Braun (*Cbl. f. Chir.*, 1881, p. 122; from *Berlin. Klin. Wochens.*) gives nineteen cases of hernia treated by the radical operation under antiseptic precautions. Eleven cases were unilateral, three bilateral inguinal hernia; two cases omental hernia through the linea alba. The operation was undertaken six times after herniotomy for strangulation, nine times because the hernia could not be kept in position by a truss, twice in irreducible hernia, and twice because of intestinal fistulæ in the hernial sac. In one of the latter cases, cœcal hernia, there was no hernial sac. Two of the cases operated upon died: one, an adult, died of pyæmia. The other was a six-months' child, who died of convulsions a few days after the operation. The final result in the other operations varied according to the age of the patient. While in the case of the children a permanent cure resulted, in the adults, on the other hand (excepting the two cases of omental hernia of the linea alba), a radical cure was not attained in any case. A relapse occurred invariably after the lapse of a year, or at most two. Braun says the operation is only justifiable—1, after herniotomy; 2, in very large or irreducible hernia; 3, when fecal fistula into the hernial sac exists. In small, free hernia the operation is contra-indicated.

The Employment of Hypodermic Injections of Extract of Ergot in Varicose Ulcers and Eczema of the Leg.—The difficulty of curing varicose ulcers and eczema of the leg in connection with the varicose condition is well known, as is also the frequency of relapse in these cases, which it seems at times almost impossible to guard against. After long patience on the part of physician and patient, after rest and bandages and dressings, at last a

cure is attained, but the blue and swollen veins and the unhealthy-looking integument promise poorly for the future. Sooner or later a relapse is almost sure to occur.

With the view of obviating this, Dr. Meyerhoff (*Deutsche Med. Wochens.*, 1881, p. 96) has employed the following procedure. The ulcer being dressed with a two per cent. carbolic acid lotion, subcutaneous injections of extract of ergot were made in the deep plexus of veins around the ulcer, one every second or third day, about a grain and a half being injected each time. After the injection the limb was enveloped in a flannel bandage, and the patient reposed during that day. Nine cases were thus operated upon, the average number of injections required to heal the ulcer in each case numbering about eight, with two or three given subsequently to make all sure. The narrowing of the vessels was very decided. Relapses did not take place. The operation causes pain, lasting six or eight hours, but no abscess.

Malignant Pustule successfully treated by Injections of Carbolic Acid.—At a recent meeting of the Académie de Médecine (*Le Progrès Médical*, 1881, p. 143) Dr. Trélat told of a woman of 25, who had been stung by a fly, and who presented very grave symptoms when admitted to the hospital. Extreme anxiety, sighing respiration, intense fever, and weakness were present. Over the upper third of the sterno-mastoid was a characteristic elevation with a black centre, surrounded by a peripheral zone, on which were seated vesicles. Beyond this the skin was red and tumefied, the color spreading over the neck and even to the bosom. The diagnosis of malignant pustule being beyond question, Dr. Trélat made a deep incision through the slough and applied Vienna paste, after which he made four injections of twenty-per-cent. carbolic acid in the vesicular zone. The next day there was some improvement: the number of injections was increased to ten, and the improvement continued; the injections were then reduced by two daily, carbolic acid being given internally. Eight days later all the alarming symptoms had disappeared and the patient was practically well.

Globose Vegetations of the Heart.—Dr. Maurice Letulle (*Le Progrès Médical*, 1881, p. 145) gives the case of a woman of 65, who, in addition to evidences of embarrassed circulation, suffered extreme pain on the least pressure in the intercostal spaces of the cardiac region. The diagnosis made was dilatation of the heart, probably secondary to a mitral lesion. The patient dying shortly after, the autopsy showed the heart much hypertrophied, dilated, and filled with clots. The left ventricle contained a score of globulated vegetations within its cavity, and for the most part inserted near the apex. These grayish masses, of which the free surface in the ventricular cavity was smooth and regular, were roundish or ovoid in shape, and adhered closely to the endocardium; the largest was the size of a nut. Similar growths, in smaller numbers, were found in the right auricle. Incisions into the myocardium showed marked alterations, with incipient aneurisms of the heart. According to Letulle, these vegetations represented a spontaneous arterial thrombosis developing itself in the neighborhood of vascular localities invaded by arteriïtis.

Tripoli instead of Plaster of Paris in Bandages.—Dr. Von Langenbeck (*Cbl. f. Chir.*, 1881, No. 6; from *Berliner Klin. Wochens.*) recommends tripoli instead of plaster of Paris for the immobile bandage. Tripoli is a gray, finely-powdered mass, the method of manufacture of which is kept secret, but which is known to include lime and silica as its chief constituents. Tripoli bandages are applied in the same way as plaster-of-Paris bandages. Its advantages over the latter are the following: it absorbs moisture from the atmosphere with greater facility; it is lighter; it hardens faster, and when once set takes up no more water, so that, if penetration of water under the bandage is prevented by rubber cloth, the patient can be bathed without difficulty. In addition, tripoli is cheaper than plaster of Paris.

Hereditary Ichthyosis Cornea of the Palm and Sole.—A. Thost (*Inaug. Diss., Heidelberg*, 1880; *Cbl. f. Chir.*, No. 10, 1881) tells of a family in which ichthyosis was handed down for four generations. According to the ascertained genealogy, the ancestor who was first known to have suffered from this affection had five male children who inherited it, while one boy and one girl were spared. One of these diseased children himself begat five children, of whom three males showed the disease, while one boy and one

girl remained free. Another brother of the second generation begat five male and three female children; of these, four boys and two girls became affected. One of these latter (of the third generation) bore four children, of which three girls inherited the disease, while the fourth, a boy, escaped. Of these seventeen cases, eight were seen by Thost and careful notes were taken. It appeared that the affection always showed itself within a few weeks after birth in the form of a roughness of the palmar and plantar surfaces. With the growth of the child the condition constantly increased in severity, the epidermis shedding in large shreds until the disease reached its maximum by the fourteenth year. There was a marked disposition to excessive sweating, particularly in the diseased localities; the sensibility of the skin remained normal. Microscopic examination showed, in addition to the hypertrophied papillæ, great development of the sweat-glands, with marked thickening of the ducts. All kinds of treatment failed to give more than partial relief.

Sugar of Milk as a Medicine.—Dr. Moritz Traube (*Deutsche Med. Wochens.*, 1881, p. 113), believing that the laxative effect of whey is not, as is generally supposed, due to the salts contained, but to be attributed to the milk-sugar, was led to make certain experiments to ascertain the facts in the case. Having suffered for several years from constipation, he experimented upon himself as follows. About half an ounce of very finely powdered sugar of milk was dissolved in half a pint of yet warm boiled skim-milk, and the faintly-sweet solution drunk in the morning upon an empty stomach. An hour and a half later breakfast was taken, and in two to three hours after drinking the mixture a full, loose, brown stool was passed without discomfort. Traube has employed this mild laxative almost daily during the past fifteen months, using milk diluted with an equal bulk of water. The effect has always been satisfactory, and he has not been obliged to increase the dose of sugar of milk. Traube has employed milk-sugar in other persons, and usually, but not invariably, with success. Where it failed, he is inclined to attribute its want of success to the small dose employed or to the peculiar constitution of the patient. Regarding the amount of milk-sugar which can be taken without injury, Traube has used as much as six drachms in half a pint of water without ill effect.

A Lump of Shellac as a Cause of Ileus.—Friedländer (*Cbl. f. Chir.*, No. 10, 1881; from *Berlin. Klin. Wochens.*) found, at the post-mortem examination of a middle-aged cabinet-maker who had died with symptoms of ileus, a hard concretion, which was situated in the small intestine, thirty centimetres above the ileo-cœcal valve, and which completely filled the lumen of the intestinal tube. Numerous smaller masses, of a similar character, were found higher up in the intestine, which altogether weighed nine hundred and sixty grammes. These masses consisted of shellac, and an examination into the late patient's history showed that he had been what is called a "polish-soaker," —that is to say, he had been accustomed to drinking the polishing-fluid made use of by cabinet-makers, and which consists of a solution of shellac in alcohol. The alcohol had been absorbed in the stomach, while the shellac had been thrown down and had gradually concreted.

It is said that among the cabinet-makers' apprentices of Berlin there are many "polish-soakers," and Friedländer suggests that possibly the mysterious concretions found by Langenbuch, and which were reported at the recent congress of German surgeons, might have had a similar origin.

A New Symptom of Scrofula.—Dr. Constantin Paul has directed attention to what he considers a valuable sign of scrofula (*Bull. Gén. de Thérap.*, vol. i., 1881, p. 137). During the past two years he has observed no fewer than twenty-five cases of lupus originating in the lobe of the ear as a result of piercing for ear-rings. The affection shows itself in a multiple division of the lobe, the ear-ring working its way out and a new puncture being made, followed by the same process.

Abscess of the Brain in a Fœtus.—Dr. R. H. Bakewell (*Lancet*, vol. i., 1881, p. 142), in the case of a fœtus born after having been dead probably about ten days, found the skull collapsed, with a third of its usual contents; the bones were all loose, and several completely detached from their articulations. They were denuded of pericranium. The skull-cavity was filled with blood and pus. But little brain-tissue could be detected, and that appeared to consist entirely of the convolutions. The placenta was small, and had numerous hard fibroid masses in it.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, APRIL 23, 1881.

EDITORIAL.

DR. ISAAC RAY.

ISAAC RAY, M.D., LL.D., one of the most distinguished and best known of American physicians and writers, died at his residence, on Baring Street, in the city of Philadelphia, on the 31st of March, 1881, in the seventy-fifth year of his age.

Dr. Ray was a native of Massachusetts, and was born in the town of Beverly on the 16th of January, 1807. He commenced his literary education at Phillips Academy, in Andover, and afterwards entered Bowdoin College, where he prosecuted his studies till 1824, when he was compelled to leave on account of ill health. While at college, during the vacations he taught school, and was noted for his ability in an occupation in which so many of the great men of this country have been engaged in the beginning of their careers. Soon after leaving college, when his health had sufficiently improved, he commenced the study of medicine, passing a portion of the time in the office of Dr. Shattuck, a distinguished physician of Boston, and graduated at the medical department of Harvard University in 1827.

Dr. Ray began the practice of his profession in the city of Portland, Maine, in 1827, and he here met and married, in 1831, Miss Abigail May Frothingham, a most estimable lady, who still survives him, and with whom he lived in mutual confidence and happiness to within exactly two months of a period of fifty years.

Two years after commencing practice in Portland, inducements were offered to him to remove to Eastport, in the same State, in which place he soon afterwards fixed his residence. It was in Eastport that Dr. Ray's attention was first directed to the subject of insanity, and while there he wrote and published the first edition of his work on "The Jurisprudence of Insanity," of which six editions are now exhausted. This work is known everywhere where the English language is spoken, and is universally regarded as a high authority, no less by the members of the bar than by alienists and all the medical profession.

In 1841 Dr. Ray was appointed Medical Superintendent of the Maine Hospital for the Insane at Augusta, which position he held till he was invited by the authorities of the Butler Hospital at Providence, Rhode Island, to become superintendent of that institution—which was just then being organized—and to supervise its erection. While a resident of Maine, and especially while in connection with its State institution for the insane, he had abundant opportunity to observe the unfortunate results which have so often arisen in various parts of our country from such institutions being under political management or controlled by bodies of men whose personal interests in their affairs led to the sacrifice of officers of the highest capacity and integrity simply because they could not be induced to become agents for carrying out any plans that were not for the best interests of the institutions and their patients. On all such points Dr. Ray's opinions were most emphatic, and no one has done more to secure the proper organization of American hospitals for the insane.

Dr. Ray was led to accept the position offered him at Providence especially from the fact that that hospital was to be the offspring of private munificence, and was to be controlled by men who were above all suspicion of political or selfish interest in reference to it. Beyond this, he was here offered an opportunity to introduce into the construction of the buildings and into the subsequent management of the

institution his well-matured views on all these subjects.

After a visit to a number of the prominent institutions for the insane in Great Britain and on the continent of Europe, Dr. Ray returned to the United States and personally superintended the completion of the Butler Hospital, which he opened for the reception of patients in 1847. He continued to fill the office of superintendent of that institution till January, 1867, when, to the great regret of the authorities of the hospital and of all in any way interested in its welfare, he felt impelled, by a conviction that his health required a change of climate and occupation, to resign the position which he had held so acceptably to all, and with such signal advantage to the afflicted, for a period of more than twenty-two years.

For the first time in his life, with the exception of his short European trip, he was now released from labor, and spent the greater part of a year in visiting his professional brethren, and in seeking a place for his future home, finally adopting the city of Philadelphia, in which he settled permanently in 1867.

This release from the cares and responsibilities that are inseparable from a conscientious performance of the duties of a superintendent of a hospital for the insane, with the change to a milder climate, was greatly enjoyed by Dr. Ray, and seemed to have a very beneficial influence on his health, so that, from being unable to go more than a few blocks from his house on foot, he now extended his walks to four or five miles daily. All these changes gave him opportunity for the literary labor in which he so much delighted, and for complying with the frequent calls that were made upon him for professional consultations and for his opinions as an expert in criminal cases and in regard to the mental capacity of individuals who were making testamentary disposition of their property.

Dr. Ray was one of "the original thirteen" who in 1844 established "The Association of Medical Superintendents of American Institutions for the Insane," and also took a deep interest in its success. He was rarely absent from its meetings, was a frequent contributor of valuable papers, and participated actively in nearly every discussion coming under its notice. He was its president from 1855 to 1859. At the meeting of this association in Providence, in 1879, he was the recipient of distinguished attentions from his old associates, friends, and neighbors, as well as from the Rhode Island Medical Society (of which he was at one time president), and from Brown University, which at this time conferred upon him the honorary degree of Doctor of Laws.

Dr. Ray was a Fellow of the College of Physicians of Philadelphia, frequently read valuable papers at its meetings, and always took an active interest in matters coming up for discussion.

He was a most industrious writer. Besides his well-known larger works, there were few matters of professional or public interest that did not to a greater or less extent, through the various journals or in the daily public press, receive the benefit of his clear views and wise suggestions.

The death of such a man as Dr. Isaac Ray—a wise counsellor in all cases of obscure mental disturbance—makes vacant a place in this community, in the medical profession, and in the specialty to which he particularly devoted himself, that cannot readily be filled. By those who knew him intimately, in addition to this, there must be felt the sundering of the social ties of friendship and tender regard, the loss of his genial presence, his words of wisdom, and his remarkable and variable conversational powers, which made him interesting alike to the gravest men and to the prattling children with whom he was always a favorite.

After impressive funeral services in the

chapel of the institution, where every mark of respect was paid to his memory, the remains of Dr. Ray were interred in the cemetery adjoining the grounds of the Butler Hospital, at Providence, which he loved so well, and in which he had spent so long a portion of his active and useful life.

CLINICAL INSTRUCTION.

MOST of our readers have, no doubt, read more or less of the discussion which has been carried on with sufficient acrimony between the *London Lancet*, Professor Gross, and the *New York Medical Record*, or, perhaps to speak more accurately, between Mr. A. E. Broster and Professor Gross in the two journals named, the editors aiding, abetting, stimulating, by comments, much as the sponge-holders stimulate combatants in a less honorable cause. The tone of the last editorial in the New York journal is notable. Our most honored colleague writes as though his life had been spent among the deserts of Africa, or in some high court of Europe where no western breeze ever wafts democratic news to aristocratic ears. According to the veracious chronicles of Atkinson, for five-and-forty years has he lived in and about New York City, save when travelling up and down the land in the service of his country; for many years editor of what, if we take it at its own valuation, is the "livest" journal in America. Sitting, therefore, in an editorial sanctum as a spider sits in the centre of a web which reaches everywhere, he confesses to a little curiosity in learning of the actual facts in the controversy! Does he not know them? Is No. 27 Great Jones Street, New York, such a distinct recess of the American continent that neither telegraph, mail-bag, nor messenger from other parts of the United States can reach it? Possibly! Or is our most honored friend a little afraid or a little ashamed to tell the truth in regard to the average medical teaching of America? The truth, properly stated, might be written in very brief terms, but the mass would be as bitter as a pellet of strychnia, and represent much more of destructiveness to human life.

In most of our medical colleges there is no roll-call. No personal efforts are made to see how much instruction of any kind the student receives, and there is no necessary personal contact between him and any official teacher. A class, it may be, of six or seven hundred men—some fresh from the country, some nearly ripe for graduation—are lectured to by the professor at stated times: it is plainly impossible for the speaker to know more than a fraction of his hearers. Clinical teaching is upon the same basis as other teaching: the clinical lectures are given; the student can come or go, as he chooses. Theoretically it may be possible for a man to graduate without seeing a single case, just as theoretically it is possible for him to graduate with a very slight attendance on teaching of any kind. Practically the students attend the clinics as well as or even better than they do the didactic lectures.

The criticism of Mr. A. E. Broster is theoretically right, practically wrong. His prying finger does not touch the real sore in most American clinical teaching, —namely, that it is, for practical purposes, little or no better than didactic lectures. A huge class on the benches, a sick man in the amphitheatre, employed by a brilliant lecturer as a text for a discourse,—this is ordinary American clinical teaching; and it is not only possible for a man to graduate in an American college without having been taught practically the difference between a sibilant and a mucous râle, but a large proportion of the men who do graduate know nothing about any form of physical diagnosis, and those who have learned the art have done so from private sources and of their own free

will, not because they have had opportunities offered, and not because they have any fear of being expected by examiners to have any practical knowledge of the subject.

The New York colleges, the Jefferson Medical College, the Eastern and the Western schools in general, are at one in these respects, except only those schools which have reformed their programme of teaching,—namely, Harvard University, the University of Pennsylvania, the Michigan University, and a few of the smaller institutions. In these—all, we believe, certainly in the two we know most about—at the bedside clinical medicine is taught thoroughly to small classes, and attendance upon such instruction is enforced upon the student.

NO PREMIUM ON FOLLY.

NOT long ago an American physician lost his life from diphtheria contracted in the attempt to clear a tracheotomy-tube by sucking it. His act of folly was, in the opinion of some, hardly condoned by its punishment; by others it was lauded as an act of heroism. A recent number of a contemporary relates with satisfaction that the Albert Medal has been conferred upon a young surgeon of England—a Mr. Grier—who applied his mouth to the tube to restore respiration in a similar case. The editor of our contemporary makes this the occasion for some ironical remarks about the want of appreciation of such deeds in "the land of the free and the home of the brave."

It is a pity, not that there should be this lack of appreciation, but that there should be any exception to it. It is time, indeed, that expressions of admiration for reckless and unthinking acts of folly should stop, and that men who have any influence in moulding public sentiment should strengthen the opinion that it is not praiseworthy, but on the contrary censurable, for one to expose a valuable life in the hope of saving one of less value, and tenfold reprehensible when the risk is so enormous and the benefits are so unlikely to be obtained or kept as in the cases we have just referred to. The man who does such things is not brave, he is rash; and, hard as it may sound, the American who lost his life and the Englishman who received the Albert Medal were both actuated by idiotic although courageous impulsiveness.

If the commander of the charge at Balaklava had survived only to be court-martialled and shot, we might have lost a very effective occasion of school-boy oratory, but we would also have been spared a very pernicious example of praising what should be universally condemned. The same principle should guide us in expressing opinions of men who try to clear tracheotomy-tubes with their mouths. If they die in consequence, natural etiology takes their punishment out of our hands; if they live, they should be pilloried as a warning to others.

PROCEEDINGS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, JANUARY 27, 1881.

THE PRESIDENT, Dr. S. W. GROSS, in the chair.

Acute caseous phthisis. Exhibited by Dr. J. H. MUSSER.

WHEN removed from the body, the lungs which are before you this evening presented the following appearances. *Right* lung: costal and pulmonary pleura adherent; entire lung consolidated. On section, upper lobe of a yellow color, very soft, cheesy, presenting numerous small cavities, from which poured a thick gray fluid. A strong stream of water playing on the lobe washed out the soft cheesy material and revealed the lung riddled with cavities not larger than a filbert, generally communicating. The middle lobe was completely consolidated, of a gray color, very slightly granular, and exuded a thin fluid. The lower lobe was grayish-yellow, soft, with three small cavities. *Left* lung: pleural adhesions at apex; one-fourth of the upper lobe presented the characteristic ap-

pearances of catarrhal pneumonia. The remaining organs were normal.

The specimens were removed from a young man 25 years of age; single; a painter; of good habits; without any hereditary predisposition to disease. He had always enjoyed good health, and had never been subject to cold. One month prior to admission to the hospital he caught "cold." Persistent cough was the only symptom for two weeks. Then he noticed feverishness and night-sweats. The cough, at first dry, about the same time became muco-purulent. Emaciation and loss of strength followed. His appetite remained very good, and there was no gastro-intestinal derangement. During this time and until admission to the hospital he was going about from place to place in the Eastern States in search of work. The past week the fever and sweats and the cough have continued, the emaciation has progressed, and the debility has become greater.

On admission, November 5, haggard and emaciated; dry hot skin throughout the day; exhaustive night-sweats; face pale; hectic flush; eyes blue; sclerotics pearly; hair brown; lips thin and pale; hands bluish; fingers not clubbed; special senses and cerebral faculties normal; teeth poor; tongue red, clean; appetite and digestion very good; no diarrhœa; liver and spleen normal; pulse 110; heart-sounds normal; respirations 28; almost constant cough, worse at night; abundant muco-purulent expectoration; great pain in right side and at right apex, with tenderness; unable to lie on that side. Physical signs of consolidation of right upper lobe, anteriorly and posteriorly, with mucous râles.

November 17. — The severe cough has continued; extreme pain; fever and profuse sweats; emaciation progressing; weak. The dulness, the bronchial breathing, and bronchophony of the right apex have been replaced by cracked-pot sound, amphoric breathing, and pectoriloquy. These signs are especially distinct between the clavicle and the third rib. Consolidation of the middle lobe is noted, and partially of the lower.

November 21.—The physical signs of a cavity noted last week continue, but are variable. At one time cracked-pot sound is absent and tympany present, cavernous breathing replacing the amphoric. With amphoric breathing there are a few large râles; when cavernous, innumerable moist râles are heard. The more distinct evidences of consolidation of the lower lobe were frequently pronounced, with dulness, bronchial breathing, and subcrepitant râles. No alteration of digestion; pain and cough only relieved by morphia; fever and sweats continued; breathing hurried.

November 21.—The distinct but variable pectoriloquy and other signs of a cavity continue. At the base complete consolidation and softening; large mucous râles heard all over the chest. Impaired resonance and prolonged expiration, with a few crackling râles, noted three days ago at left apex; they continue.

On November 30 the following physical signs were noted. Thorax long and flat; considerable flattening above and below right clavicle; expansion impaired; vocal fremitus increased over lung anteriorly, diminished at base posteriorly. On light percussion, in first interspace at right edge of sternum, tympany becoming dull towards shoulder; on deep percussion, cracked-pot sound. In second, on light percussion, tympany especially on full inspiration; at end of expiration, dulness; on deep, cracked-pot sound. From the third rib to the liver, vesiculo-tympanitic percussion-note. On auscultation, cavernous breathing of high pitch, becoming amphoric towards the shoulder, with large bubbling râles in the first interspace. In second, cavernous breathing and bubbling râles; from third rib, cavernous breathing and mucous râles. Pectoriloquy absent to-day, though at times distinct in the three upper interspaces; vocal resonance absent. In line of axilla, dulness from above downwards. Posteriorly, dulness to middle of scapula, increased resonance below. Where dulness, vocal fremitus increased, absent where extra-resonant. Above spine of scapula, amphoric breathing and bubbling râles; from spine to middle of scapula, blowing, almost cavernous breathing, with moist crackling râles, in inspiration, and only the râles in expiration. Below middle of scapula numerous moist râles and a very faint blowing breathing. Left apex as previously noted.

Hectic very great; delirium at night; muco-purulent expectoration, slightly streaked with blood; daily epistaxis; tongue clean and red; bowels costive; appetite good.

December 6. — Cracked-pot sound from clavicle to fifth rib on right side, in first interspace on left; other signs the same; continual low delirium and stupor.

December 16.—No noteworthy change in physical signs. Died of exhaustion to-day.

Note first the pathological conditions of the lungs. Upper lobe, numerous cavities; middle lobe, consolidation; lower lobe, consolidation, caseation, a few cavities. Note that over the upper lobe anteriorly there was tympany or cracked-pot sound, cavernous or amphoric breathing, variable pectoriloquy; posteriorly, dulness and amphoric breathing; physical condition, innumerable small cavities. Over middle lobe, vesiculo-tympanitic note and cavernous breathing in front, dulness and blowing breathing behind; lobe consolidated. The lower lobe completely consolidated, with a few cavities yielding vesiculo-tympanitic percussion-note all over; cavernous breathing anteriorly, faintly blowing posteriorly. The intermittency of the pectoriloquy and the variability of the auscultatory and percussion phenomena are of interest.

There was no mistake in the above signs, as they were demonstrated to ward classes, and from time to time compared with the physical signs given by the enormous cavity in the lungs which I presented December 13. I neglected to note, also, that the cavernous or amphoric breathing was often heard clearer in inspiration.

Case of chronic peri- and intra-articular disease of knee-joint. Presented by C. B. NANCREDE, M.D.

Peter ——, æt. 60 years, was admitted, September 13, 1880, to the male surgical ward of the Protestant Episcopal Hospital, suffering from a slight but painful swelling of the left knee-joint. He had been a hard drinker and an inmate of the House of Correction until his transfer to my wards. He could assign no cause for his trouble, but said the other knee had been similarly affected and the disease had been pronounced rheumatic.

The joint steadily increased in size, but did not assume the peculiar form of acute synovitis, the swelling inclining to project more into the popliteal space and externally. By September 21, 1880, free fluctuation was detected, when the purulent collection was aspirated, and proved to be distinctly extra-articular. The puncture soon ulcerated, when an exceedingly profuse discharge ensued, and continued for many weeks. After numerous counter-openings, oakum setons, etc., had been resorted to, the discharge diminished greatly in quantity, but the pain rather increased, until large doses of morphia were necessary to procure any relief. The joint became firmly anchylosed. During the month before operation he had two attacks of agonizing pain in the joint and its neighborhood, which so interfered with sleep and his appetite that he rapidly began to fail and was urgent to have his limb removed.

Accordingly, on January 17, 1881, I amputated the thigh at the junction of the middle and lower thirds, after which he made an unusually rapid recovery.

Upon examination, the tissues surrounding the joint plainly indicated marked disease, while the joint itself was obliterated by adhesions, except over the under surface of the outer condyle, with the corresponding facet on the tibia, and over the patella, with the subjacent portion of the trochlear surface. Here there had been distinct hemorrhages, stretching and distending the adhesions. The inner facet of the patella was slightly eroded. It seems not improbable that the two sudden attacks of pain before referred to were due to the stretching of the adhesions produced by the sudden giving way of blood-vessels pouring out blood into the two small cavities just described.

Dr. GROSS considered that in this case the trouble arose from inflammation of the lamella of bone just beneath the cartilage coating the patella. This is the usual way for joint-trouble to commence, except when the synovial membrane is diseased. He thought that the eroded cartilage was the source of the hemorrhage and the pain, rather than any stretching of adhesions, which he considered impossible by any passive hemorrhages such as these effusions must have been.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

A CONVERSATIONAL meeting of the Society was held at the hall of the College of Physicians, Philadelphia, January 26, 1881, Dr. Albert H. Smith, President of the Society, in the chair, at which Dr. E. T. Bruen read a paper entitled "Some Observations upon the Carlsbad Treatment," and Prof. H. C. Wood presented a case of nerve-disorder in a man about 40 years of age, presenting some unusual symptoms.

PERIPHERAL NERVOUS PHENOMENA DUE TO INTRATHORACIC GROWTH.

The following history of the case was given. The patient had suffered for many years with epilepsy, but without decided mental derangement. About a year ago he complained of contraction of the "cords in his neck," and at the same time a tumor was observed in the front of his neck which gradually increased in size. Recently he exhibited symptoms of hyperæsthesia in the parts supplied by the brachial plexus, for which he sought treatment: he had not complained of dyspnœa, but the respirations were found to range from 26 to 30.

The tumor of the neck displayed upon his appearance before the Society was connected with the thyroid gland, and moved with the larynx in swallowing: it had the appearance of a cystic thyroid growth. The peculiar symptoms were the hyperæsthesia existing around the shoulder and down the arm; a touch upon the skin gave him excessive pain. In the supra-clavicular fossæ were found some enlarged glands; there was evidence of pressure upon the left bronchus; the upper two ribs were depressed, and the venous murmur was less on the right side of the neck than on the left side.

In seeking for the cause of the symptoms, the speaker said that he believed it must be sought for within the chest, that there must be pressure exerted in the posterior mediastinum, producing irritation of the sympathetic ganglia and disturbance of sensation upon the right side. The left side is not seriously implicated in the pressure-symptoms. The source of pressure must operate unequally upon the two sides; it must be low down below the bifurcation of the trachea, because the respiratory movements of the glottis were normal and there was no laryngeal paralysis. As to the character of the growth, there was no evidence of aneurism, no pulsation, no

bulging near the sternum. He saw a probable explanation of the pressure in the enlargement of the deep bronchial glands (cancerous or otherwise), subsequently giving rise to neuritis extending throughout the region supplied by the brachial plexus.

To sum up: he considered the pressure of obstruction to be indicated by the sinking in of the supra-clavicular space and groove on the right side, the rapid respiration, the immobile ribs, and the delayed venous flow. These must be located below the bifurcation of the trachea in the mediastinum. The nature of the disease he considered problematical, but it was either carcinomatous or sarcomatous in all probability. In the absence of any signs of aneurism, the diagnosis of a tumor seemed necessary.

In reply to a question, he said that he attributed the peculiar position of the patient's head (wry-neck) to muscular spasm from immediate proximity to the inflamed glands. The condition of the thyroid gland could not explain the nervous trouble, since such a result of goitre would be very uncommon. The disease in the neck had existed for years, while the other symptoms were comparatively recent. Pressure upon the nerve-trunks causes pain, shooting down the arm to the hand; indeed, hyperæsthesia is so marked that pressure on any part causes pain extending over the whole affected area.

Prof. Roberts Bartholow inquired whether the previous history of cerebral disorder could not interpret the phenomena presented by the patient. He had had epilepsy and other evidence of cerebral mischief: could there not be intracranial disorder or pressure, occurring more particularly upon one side, which might give rise to the symptoms? He also asked whether the lecturer had taken into account the possibility of cervical pachymeningitis spinalis, as well as that of cerebral disorder.

Dr. Chas. K. Mills inquired what effect this comparatively acute condition had upon the epileptic seizures, and whether the latter were local, general, or unilateral.

Prof. Wood, in concluding the discussion, said that he supposed the patient had had epilepsy for years, but as to the character of the seizures he could not speak, as he had seen the patient for the first time only a week before. He would not claim that a man could have epileptic seizures for forty years without producing some symptoms of mental disease; but such disease was not marked in the present case, and he could not conceive of any condition of the brain which would produce such peculiar unilateral symptoms. Moreover, he could not see any cause for suspecting the existence of pachymeningitis.

THE CARLSBAD TREATMENT.

Dr. Bruen read his paper, "Observations on the Carlsbad Treatment."

Dr. Addinell Hewson said that he had heard Sir Henry Thompson express strongly his belief in the value of the Carlsbad waters. The speaker had then asked what was his opinion of the artificial Carlsbad salts, and had been told that they were of little value: the natural water should be drunk on the spot, with all the hygienic and climatic advantages to assist in its restorative effects.

Dr. Bruen agreed with the last speaker that residence at the springs was a great advantage, not only because of the natural attractions of the place, but because the physician there has more complete control of his patients than at home.

SPECIMENS FROM HIP-JOINT AND THIGH AMPUTATIONS.

Dr. Chas. B. Nancrede presented a specimen consisting of a femur and a portion of the tibia and fibula of the right side, which he had removed by amputation at the hip-joint. The case was one of alveolar osteo-sarcoma of the femur, complicated by spontaneous fracture three months before the operation. The abdominal tourniquet was used, and Esmarch's bandage applied to the limb, so that no blood was lost except that contained in the flaps. It is probable that these precautions prevented the development of any degree of shock; for no marked depression was observed; the temperature was not over 101°, nor the pulse over 108; on this morning—forty-eight hours after the operation—the temperature was only 98°, the pulse was only 102, and the patient said that he felt very well.

A specimen of the knee-joint, which he also exhibited, was interesting from the explanation of the intense pain from which the patient suffered. The man had been treated for rheumatic inflammation of his right knee; subsequently a swelling developed in the popliteal space, fluctuation became marked, aspiration was resorted to, and sinuses were formed around the joint; but there seemed to be nothing to account for three attacks of intense pain occurring at intervals of some weeks. Amputation was performed, and it was discovered that the patella was slightly eroded, and that there was complete obliteration of the joint by adhesions, except under one facet of the patella and a portion of the outer condyle of the femur. The resulting cavities contained blood. The question arises, may not the separation of the adhesions by this effusion probably account for the attacks of pain? He thought that hemorrhage, to the extent found in this case, occurring in old adhesions in a joint, must be a rare condition. There was apparently very little active joint-trouble; but the exhaustion produced by the pain required operative interference.

THE PRESENT EPIDEMIC OF SMALLPOX.

Dr. M. O'Hara, referring to the epidemic of smallpox which had lasted throughout the winter, said that in two cases which he had

seen the hemorrhagic form bore a strong resemblance to scarlatina. He had not found the hemorrhagic cases to last long, not over the second or third day of the eruption, and on this account he did not consider them so contagious as the others which took the full period to ripen. He had not been able to trace any transmission from this variety in his own cases. He had some doubt in regard to the pathology of these hemorrhagic cases, whether or not the blood-disorder might not have been the primary affection connected with other causes and only started up by comparatively small amounts of the smallpox poison. He called upon Dr. Welch for information in regard to the epidemic.

Dr. Wm. M. Welch said that quite a large number of smallpox cases were being received at the Municipal Hospital, indicating that the disease was quite prevalent, as indeed it had been for several months past. In November, 1879, the disease reappeared in this city after an absence of about two years; the cases steadily increased during the whole of the winter of 1879–80, but they were not, however, very numerous; the number increased during the spring, but diminished during the warm weather of summer. In August they again rapidly increased, so that he doubted whether in the history of smallpox in Philadelphia there had ever occurred before in the month of August as many cases of the disease. During the fall and winter months the disease kept on increasing; and he believed that January would show a larger number of cases than December.

In regard to the hemorrhagic cases he had observed that they usually die during the first week of the eruption. The very malignant cases sometimes die at the beginning of the attack, before the eruption appears. There has been during the present epidemic a large number of hemorrhagic cases admitted into the hospital, though not quite so large a proportion as in 1871–72, and they do not prove so rapidly fatal, many of them living until the beginning of the second week. As regards contagion, he had no doubt that all cases of smallpox, whether hemorrhagic or not, are contagious. In hemorrhagic smallpox the vesicles usually contain blood, or blood mixed with serum, and this gives to the skin a peculiar livid, dark-purple, or indigo color. The conjunctivæ also become infiltrated with blood, the face smooth and glossy, hemorrhage occurs from the mouth and nose, and a little later blood appears in the urine, and frequently in the stools.

Dr. W. R. D. Blackwood said that he had noticed some points in regard to the present epidemic. In looking over his notes, he found that in the previous epidemic (1871) he had seen fifty-seven cases, in which there was only one instance of the hemorrhagic form, which died on the seventh day of the eruption.

In speaking of the portage of the disease, or its spread from the sick to the healthy through an intermediate person not himself affected, he said that the disease had been thus communicated by attendants upon the sick, and he therefore had been especially careful not to see any smallpox cases until he had seen all his ordinary patients. He put off all such cases until the afternoon, and he had gone to a great deal of trouble in changing his clothes before visiting the contagious disease, and subsequently taking a bath and again changing his clothing before seeing his family or attending to other patients. He inquired as to the liability of physicians to carry smallpox or other contagious diseases: as the exposure is only for a short time, he believed that the danger had been much overrated.

Dr. L. K. Baldwin spoke of a case of hemorrhagic smallpox in which, after symptoms of "a cold" had existed for about a week, the eruption appeared on Saturday and the patient died on Tuesday. Both the mother and daughter had subsequently a slight attack of so-called varioloid. When the eruption appeared in the first case it was like purpura. The next day the entire surface was covered with livid patches, and on the third day he passed bloody urine and all the mucous membranes exuded blood. He died the next day, from exhaustion.

Dr. O'Hara, in referring to vaccination, said that he could not understand the variability and persistency of the disease if vaccination is an efficient protective. If a vaccination will take after a person has had smallpox, or a person could have smallpox after vaccination, he could not feel certain that he was fully protected when called to attend a malignant case of smallpox. At the same time, he would vaccinate everybody, even if they had a few smallpox scars on the face.

Dr. R. B. Burns said that in regard to the portage of contagious diseases by physicians, he had not been aware of any instance in which he had carried smallpox, but he had undoubtedly communicated scarlet fever to his own child. He reported a case where a person not exposed to any contagion, as far as could be ascertained, having been confined to the house for some time, developed hemorrhagic confluent smallpox, and died on the fourth day. He had recently seen a case in which, two weeks before the smallpox appeared, the patient had had an ordinary scarlatinal sore throat, fever, and eruption followed by general desquamation. The occurrence of the smallpox was remarkable as illustrating the occurrence of two blood-poisons in the same subject with such a short interval between.

Dr. Welch, in reply to several questions, said that probably a few cases of smallpox were not reported to the Board of Health; but a physician attending a case renders himself liable to a fine of fifty dollars if he does not report it promptly. In regard to the portage

of disease, he believed that smallpox contagion could be carried in clothing. On this account he always was careful to change his clothing and wash before leaving the hospital. He mentioned an instance where a nurse had carried scarlet fever to a child. In another case a female nurse attending a smallpox patient had visited her daughter, and her daughter's child subsequently took smallpox and died. He believed that many such cases occur: so that it becomes the duty of every physician to observe the greatest care to guard against carrying contagion.

Concerning the coexistence of contagious diseases, he had lately seen a case in which scarlet fever and smallpox ran their course together. A colored child was received into the hospital with a mild attack of smallpox. During the first week of the eruption scarlatina also developed, of which disease the child died after an illness of about two weeks. He had seen scarlet fever following smallpox. In 1872 a child with confluent smallpox was under treatment for four weeks, and during convalescence was attacked by scarlatina, and died three days subsequently. It had not been out of the hospital for a month, nor had there been any cases of that disease in the institution. It is possible that it had previously been exposed to the scarlatina poison and that it had lain dormant during the progress of the smallpox.

In regard to disinfectants, he did not know of any efficient aërial disinfectant: the only means of protection was vaccination. He had unbounded confidence in vaccination as conferring immunity from smallpox. Even after exposure to contagion it is effective, providing it is not too long delayed. It often happens that unprotected persons are sent to the hospital by mistake, suffering with other eruptive diseases, or unvaccinated children are sent with their parents. All such persons are at once vaccinated, and frequently with complete protection. He generally uses humanized virus, but sometimes resorts to the ivory points: in the hospital he much prefers the recent crust. He finds that the bovine virus is less rapid in developing, and is therefore less useful than the humanized after actual exposure has occurred. In such a case, where protection is not perfect, if the areola form before the variola eruption appears, the modifying influence is very evident in the course of the disease; otherwise it does not yield any protection, or at least cannot be depended upon. In 1871–72 very little bovine virus was used, but he had obtained complete protection by means of a crust even many times removed.

Dr. S. G. Skillern endorsed the last speaker's remarks about vaccination. In a family not protected the father was taken with confluent smallpox. The speaker vaccinated the entire family, including six children under fifteen years of age, with the humanized virus, which took very well, and not one of them contracted the disease.

He cited the case of a former member of the Society who had a very sad experience of the portage of the disease: he carried smallpox to his wife. A physician should take especial care not to visit other cases after seeing a smallpox patient without changing his clothing.

Dr. Addinell Hewson, speaking of the protection afforded by humanized virus, said that his father (the late Dr. Thomas T. Hewson) and the late Dr. Otto were the first in Philadelphia to receive a crust direct from Dr. Jenner. This was in 1802, immediately on the excitement concerning the discovery of vaccination. From that date to the time of his death, in 1847, Dr. Thomas T. Hewson not only kept himself provided with good healthy virus, but kept records of every one of his cases, which he made it a rule to see on the third, fifth, seventh, and ninth days, so that he could state whether the process had been perfect or not both as to form and time. Such caution Dr. A. Hewson considered essential for success, and the neglect of it was in his opinion the occasion of reported failures. He recalled an instance of a family, all the members of which had been vaccinated in infancy by his father, where one took smallpox in adult life, and it was found upon examination of Dr. Hewson's records that this was the only one of the family in whom the vaccination had never been perfect. He believed that many persons are under the impression that they are protected who have never been properly vaccinated.

F. W.

REVIEWS AND BOOK NOTICES.

On the Construction, Organization, and General Arrangements of Hospitals for the Insane; with Some Remarks on Insanity and its Treatment. By Thomas S. Kirkbride, M.D., LL.D., Physician-in-Chief and Superintendent of the Pennsylvania Hospital for the Insane at Philadelphia.

This book is the result of the ripest experience and most mature reflections of the oldest and ablest superintendent of a hospital for the insane in the United States, and can be commended in the heartiest manner to the careful study and candid examination of all who are interested in the care and treatment of the insane, whether as officers of hospitals for that class or those in the community at large who wish to be correctly informed in regard to the true principles of construction of such institutions and their proper management after they have been erected.

A careful study of this book will reveal the serious and numerous blunders in construc-

tion which would-be reformers have been so industriously urging within the last few years, and would also prevent that cheap construction which has been so much lauded, but which is ultimately by far the most expensive. From our observation, the zeal of these gentlemen is in inverse proportion to their knowledge and to their desire to be correctly and thoroughly informed on the subject.

The plans recommended and the particular arrangement of those plans in their interior details have stood the test of time and experience in every section of the country, and have been demonstrated to be the only plans which combine economy of construction, thoroughness of supervision, and the greatest efficiency of management.

The second part of the book, on the organization of hospitals and the treatment to be pursued, should be studied in the most careful and thorough manner by every one who wishes to be wisely and correctly informed in all matters pertaining to the interior management of hospitals for the insane. Though many men have allowed themselves to be carried away with the plausible theories of those whose knowledge is of the most superficial character and who have never spent time enough in a hospital to enable them to master the most rudimentary principles underlying the treatment of the insane, yet we are convinced that the precepts and principles laid down in this book will be found by every man of sound common sense and judgment to be those which can alone successfully guide any one in the proper care and treatment of the insane, and that adherence to any other will be a delusion and a snare and only result in lasting injury to the insane.

J. CURWEN.

COLORADO FOR INVALIDS. By S. EDWARD SOLLY, M.R.C.S. Eng., etc. Pamphlet reprint, pp. 28. Colorado Springs, 1880.

No one can read this pamphlet through without feeling glad that he has done so. So vague are the ideas of physicians in the East as to what are the conditions which should determine the choice of a climate in chronic illness that errors are constantly made, and, as a consequence, both physicians and climate suffer in their reputation. The pamphlet gives information which will tend to save the credit of both.

Dr. Solly first defines what is meant by a change of climate, and then shows how the three essential elements which constitute a climate—the qualities of the atmosphere, the soil, and the intensity of the sun's heat and light—are influenced in Colorado, which represents the mountain climate as distinguished from that of the sea-side. The rarity and dryness of the air, with their consequent effects upon temperature, are the chief peculiarities of such a climate. Dr. Solly then shows how the act of breathing is influenced by such an atmosphere; how morbid processes in the lungs are influenced,—inflammations, with catarrhal and interstitial morbid products, blood-spitting, etc.; and, finally, enumerates the classes of cases which may reasonably be expected to benefit in a Colorado climate, and those which are unfavorably affected. Among the former are cases of phthisis not too far advanced, of asthma, of dyspepsia, and of simple nervous exhaustion without organic nervous disease. Among the latter are cases of valvular disease of the heart, especially with fatty degeneration; liver disease in the full-blooded, acute renal disease, etc.

Dr. Solly's broad principle is, "Send the thin-blooded to Colorado; keep the full-blooded away. Send those on the up-grade of life, and not on the down. In diseases—except in that of the lungs—where there is active change of structure, avoid the too rapid life which this climate causes."

In conclusion, the distinctive features of the principal centres of health-resort—Denver, Colorado Springs, Manitou, Pueblo, and Cañon City—are described.

The pleasing style in which the paper is written makes it very interesting, while the air of candor which pervades it commands also the respect of the reader.

IMPERFECT HEARING AND THE HYGIENE OF THE EAR. By LAURENCE TURNBULL, M.D., Ph.G., Aural Surgeon to the Jefferson Medical College Hospital, etc. Pp. 147. Philadelphia, J. B. Lippincott & Co., 1881.

Dr. Turnbull's little pamphlet on "Tinnitus Aurium," published some years ago, has grown in this the third edition to be quite a good-sized volume, and other matters have been introduced which will make it even more acceptable than the previous editions have been. The brochure is now, in reality, a collection of monographs on various subjects in otology, which will be likely to interest the non-specialist and general reader as well as the aurist.

The book includes well-considered articles on "the limit of perception of musical tones by the human ear;" "tinnitus aurium, and observations on aural or auditory vertigo, with diagnosis and treatment;" "the importance of the treatment of the naso-pharyngeal space, tonsils, and uvula in acute and chronic catarrh of the middle ear;" "artificial perforation of the membrana tympani;" "the mastoid region and its diseases, with illustrative cases;" "the hygiene of the apparatus of hearing, with the prevention of deafness;" "on the method of educating the deaf-mute at home, and on the selection of proper schools for the deaf and dumb;" "a comparison between the audiphone, dentaphone, etc., and the various forms of ear-trumpets." There is, in addition, an "introduction," in which the recent progress of otology is given.

We can most heartily recommend Dr. Turnbull's work to any one who desires to be

informed thoroughly on the points treated of in it. Dr. Turnbull has not only given his own experience and supplied plenty of illustrative cases, but he has also posted himself well on the literature of the subjects treated by him. S. M. B.

DE L'ÉTAT DE MAL ÉPILEPTIQUE. By DR. ACHILLE LEROY, Bureau du Progrès Médicale. Paris, 1880.

This valuable brochure of about ninety pages is a detailed account of a number of cases dying in the so-called epileptic status after a prolonged history of chronic epilepsy. Some of the cases are those upon which Dr. Bourneville based his well-known thesis upon the subject. This epileptic status, when fully developed, seems usually, if not always, to end in death. The symptoms are very similar to those often seen in severe puerperal eclampsia,—violent frequently-repeated convulsions, with quiet or delirious coma and muscular relaxation, and decided rise of temperature. The diagnosis between eclampsia and the epileptic status must usually rest upon the history; but the great rise of temperature generally suffices to diagnose between it and uræmia. Apoplectic attacks may simulate it closely, but, except when the hemorrhage occurs in the neighborhood of the pons, rise of temperature is rare, and when occurring is probably always preceded by a fall: in cases of pons hemorrhage the convulsive symptoms are less severe, and the local paralysis usually betrays the lesion.

THE METRIC SYSTEM IN MEDICINE. By OSCAR OLDBERG, Phar.D. Philadelphia, Presley Blakiston.

Among those who are desirous of forcing the American medical profession to swallow, *nolens volens*, the metric system, Dr. Oldberg is by no means the least important, and, although one may feel slightly disgusted with the continuous effort to effect a doubtful reform, it is impossible not to admire the enthusiasm and persistency of the gifted pharmacist. The book contains one hundred and eighty smallish pages, occupied with all sorts of tables translating backward and forward metric, apothecary, and other weights, a long posological table, and numerous metrical formulæ.

ANATOMICAL ATLAS. Edited by AMBROSE L. RANNEY, M.D. New York, G. P. Putnam's Sons.

This volume consists of one hundred and twenty-three very well executed steel plates, containing four hundred and thirty-nine designs, by Professor J. N. Masse, of Paris, and various diagrammatic cuts selected or designed by the editor. The scope of the book is that which seems to be the common property of anatomical artists; the execution better than ordinary; the size and compactness such as fit it for the library-shelf, the book-table, or the dissecting-room. The parts of the figures have not their names upon them, but are numbered, referring, of course, to text-descriptions. This the editor thinks not a disadvantage: "While it does not assist a rapid review of a figure, but rather hinders it, this fact alone is the best proof of the advantages of the system. Plates must be studied, and not merely glanced at, to be of value to the student,"—a special pleading which, to our thinking, shows so ingenious a mind on the part of Dr. Ranney that if law, not medicine, were his profession, Fortune's wheel for him would turn merrily.

A TEXT-BOOK OF HUMAN PHYSIOLOGY. By AUSTIN FLINT, JR., M.D. Third Edition. New York, D. Appleton & Co.

One of the most hopeful evidences of the continual progress in the medical profession is the large sale which thorough scientific treatises like the present command. Whilst congratulating Dr. Flint, Jr., we would also congratulate the profession that so ponderous a tome as this physiology is so buoyant in the sale-market. A somewhat careful examination of various parts of the work has shown that it has been well brought up to the science of the day.

CONSTIPATION PLAINLY TREATED. By Dr. JOSEPH F. EDWARDS. Philadelphia, Presley Blakiston.

A little book of sixty small pages, containing nothing strikingly new or objectionable, but much that is sensible and pleasantly written.

GLEANINGS FROM EXCHANGES.

NEW REMEDIES—COTO, COTOIN, AND PARACOTOIN; DUBOISIN; QUEBRACHO BARK; ASPIDOSPERMIN.—F. Rohne (*Virginia Medical Monthly*, March, 1881) gives a brief account of these new remedies, based chiefly upon personal experience. Regarding the first and last, although it is now some time since they were first brought to the notice of the profession, so little has appeared with reference to their action and uses that it will not be amiss to abstract some of Dr. Rhone's remarks. As regards coto, the coto bark is derived from a tree, growing in the forests of Brazil and Bolivia, which is sometimes classed with the laurels, by other authors with the terebinthinates, but which, however, judging from its properties, possibly belongs to the Piperaceæ. Chemical analysis gives "an ethereal oil, an alkaloid, cotoin, which assumes a blood-red color on the addition of concentrated nitric acid, and paracotoin, which, similarly treated, gives a yellow color. There is also a soft and a hard extract. The presence of cotoin and paracotoin has its analogues in the cinchona barks, which yield more or less quinia, quinidia, or cinchonidia."

Prof. von Goit, of Munich, made the first experiments in Germany in 1875, partly with

powdered bark and partly with an alcoholic tincture:

℞ Coto bark, 1 part;
Eighty-five-per-cent. alcohol, 9 parts.

The results of these investigations led to the conclusion that the remedy is a specific in variously manifested diarrhœas.

Since February, 1877, Fronmüller has used coto and its preparations about 200 times: 62 times in lung tuberculosis, 38 times in typhoid, 12 times in catarrhal diarrhœa, 8 times in acute articular rheumatism, 6 times in gastritis, 6 times in pneumonia, 3 times in menstrual colic, twice in bronchitis, twice in swelled feet, once in rheuma, once in anorexia, once in diphtheria, and once in albuminuria. Colliquative diarrhœa was present 93 times, and hyperidrosis 91 times. Both complications were frequently present together. The different preparations used were tincture of coto, 100 drops daily, cotoin, 0.1 to 0.3 gramme [= 1½ to 4½ grs.], frequently repeated, and paracotoin in larger doses; the soft extract was also used, in doses of 2 to 10 pills daily, each weighing 0.006 gramme.

Coto not only exerts a marked influence in diarrhœa and hyperidrosis, but is useful also in anorexia. In 85 cases of diarrhœa, coto tincture was used successfully 50 times, with benefit 26 times, and without effect in 9 cases. After several days, many cases of colliquative diarrhœa relapsed, but were easily controlled, and normal stools soon followed. The principal advantage in the use of this remedy is that it is well tolerated, and improves the appetite, instead of diminishing it, as do opium, tannin, silver nitrate, etc. In hyperidrosis, Fronmüller ordered tincture of coto 91 times,—34 times with perfect success, 36 times with improvement, and 21 times without result. The beneficial action appears to consist in the augmentation of the skin circulation, which usually lasts but one night, sometimes longer. Digestion is not impaired; the appetite is frequently improved. Tincture of coto was several times used in the morning as a stomachic against anorexia.

Cotoin was used 18 times in various diarrhœas, with total cures in 9 cases, improvement in 6 cases, and with no result in 3 cases. In 18 cases of excessive night-sweats, it was successfully used in 8 cases, partly successful in 9 cases, no relief in 1 case. In five of these 36 cases, paracotoin was exhibited. One hundred drops of tincture of coto are equal to about 0.15 gramme [2.315 grs.] cotoin.

Rhone, adding the results of his experiments to those gained by other observers, concludes that coto and its preparations belong to the most active anti-diarrhœal remedies. It is particularly useful in the case of children, because it is not narcotic. It is a valuable temporary remedy in hyperidrosis. Coto is well borne, and acts as a stomachic in some cases. It is of use in the diarrhœa of typhoid. All the preparations are not of equal value: larger doses of paracotoin must be given. Cotoin has an agreeable taste, which makes it valuable for children; it may be given in powder, rubbed up with sugar. Pulverized coto may be given in the same way, or in emulsion, capsules, or wafers. The tincture is best diluted with water.

The uses of duboisin in ophthalmology are so well known to our readers that we shall not attempt to abstract Dr. Rhone's remarks on this drug.

Under the head of quebracho, Dr. Rhone gives a description of the different varieties of the quebracho and the method of its pharmaceutical preparation. He also quotes the description of its medical use given by Penzolt, of which an abstract appeared in this journal about two years ago, and adds to this the opinion of other observers going to show the value of this remedy in various forms of dyspnœa. There is, we believe, a fluid extract of quebracho now in the markets of this country.

Intravenous Injection of Milk.—Dr. Austin Meldon (*Brit. Med. Jour.*, vol. i., 1881, p. 228) says that this operation has fallen into unmerited disrepute. He has performed it with success twenty times. Twelve injections were performed in cases of phthisis, in all of which the patients had reached an almost moribund condition, with the result that in every instance, without exception, life was prolonged. In one the patient had apparently only a few hours to live, yet after the operation he rallied so much that for some months he was able to follow his usual avocations. Other cases showed similar improvement. Diarrhœa when it existed was invariably checked; in fact, it was difficult to free the bowels for the first few days. Perspiration was at first increased, afterwards lessened. Cough was always relieved. Beyond this moderate retardation of the progress of the disease, not much can be hoped for by this treatment in phthisis. Four cases of pernicious anæmia were all cured by the injection. In one the transfusion was performed twice, in the other but once. In two cases of exhaustion from hemorrhage, both recovered. In two cases of exhaustion after typhoid fever, one recovered and one died.

Dr. Meldon adds that the difficulty of obtaining and defibrinating the blood and the danger of coagulation in injecting it account for the operation not having come into more general use. Milk, however, is always at hand. Some deaths have occurred during or immediately after the operation, but in these cases the milk was either acid or kept for too long a time or too large a quantity had been injected. The milk of any animal kept in confinement is slightly acid, even when it leaves the udder, and, as the blood will not tolerate the presence of an acid, it is not to be wondered at that very unpleasant symptoms often develop when milk in that state has

been injected. To prevent the possibility of this, Dr. Meldon always adds ten grains of carbonate of ammonium to each injection. This, besides rendering it certain that the milk is alkaline, prevents the depression which so frequently follows the operation. He invariably uses the milk of the goat, as it is easier to bring that animal in close proximity to the patient, thus avoiding any unnecessary delay between milking and the injection. He never uses more than six ounces of milk. When time will not allow fresh milk to be obtained, that at hand may be boiled and strained.

Treatment of Cancer.—Mr. Jonathan Hutchinson (*Med. Times and Gaz.*, vol. i., 1881, p. 95), in a paper on the local origin of cancer, gives the following rules for treatment: 1. Primary cancers ought, wherever accessible, to be excised, or otherwise freely and promptly destroyed. 2. Since the process of absorption into the system is simply one of time, and since the prevention of it is the one point of importance to the patient, all operations for the removal of cancers ought to be done without any avoidable delay. 3. If the lymphatic glands are in the least enlarged, they ought to be taken out, the entire cluster being removed,—as well those which are not enlarged as those which are. 4. If the disease returns either in or near the cicatrix, or in the proximal lymphatics, it ought still to be regarded as possibly local, and a second free incision promptly undertaken. 5. After an operation for the removal of a cancer, the patient and his friends ought to be informed of the probability that the glands may enlarge, and impressed in the most forcible manner with the absolute necessity of immediate recourse to the surgeon should such be the case. 6. After the excision of a cancer which has involved the removal of a considerable portion of integument, great care should be taken, either by transplantation or some other manœuvre of plastic surgery, to secure a limp cicatrix which shall be wholly free from tension. 7. The removal of cancers by escharotics is a practice to be avoided (excepting, perhaps, under certain unusual circumstances), for the simple reason, if for no other, that it wastes invaluable time, and consequently involves increased risk of the contamination of the system.

Ethylate of Sodium in Nasal Polypus.—Dr. B. W. Richardson (*Lancet*, vol. i., 1881, p. 242) has used the ethylate of sodium three times with remarkable success in the treatment of nasal polypus. In two cases the polypus was small, easily discernible, and readily within reach. The ethylate was applied to the pedicle of the polypus from a probe-point of cotton-wool held in the blades of a long, pointed, curved forceps, and in both cases the growth was destroyed during the application, and was removed by afterblowing of the nose, the one application sufficing to effect a cure. The third case was one where the polypus had twice recurred after having been removed by a surgical operation. The polypus was large and far back, filling the nasal cavity. The pellet of wool as used in the other cases was here plunged into the centre of the growth and kept there three minutes. Its removal was followed by sneezing and discharge of blood, mucus, etc., and the cavity was found quite clear. There was some pain and irritation of the mucous surface for several days, but it seemed clear. The growth recurred, however, and after removing it again a few weeks later the spot from which it had grown was cauterized again, and a cure resulted. Dr. Richardson has great hopes of this treatment, which, if successful, will render a most annoying and obstinate complaint completely amenable to a simple plan of treatment. Dr. Richardson has also used the diluted ethylate in ozæna with success.

Absorbent Cotton.—"Absorbent cotton," says Mr. Frank L. Slocum, "has in the last few years taken such an important place among the necessities and conveniences of the pharmaceutist and physician that it is very desirable for the pharmaceutist to be able to procure or himself manufacture it. The manner in which it is prepared is kept secret, and there is no literature on the subject up to the present time, it is believed.

"At the request of Professor Maisch, some experiments have been made, the following process yielding the most satisfactory results:

"Take of the best quality of carded cotton batting any desired quantity, and boil it with a five-per-cent. solution of caustic potassa or soda for one-half hour, or until the cotton is entirely saturated with the solution and the alkali has saponified all oily matter; then wash thoroughly to remove all soap and nearly all alkali, press out the excess of water, and immerse in a five-per-cent. solution of chlorinated lime for fifteen or twenty minutes; again wash, first with a little water, then dip in water acidulated with hydrochloric acid, and thoroughly wash with water; press out the excess of water, and again boil for fifteen or twenty minutes in a five-per-cent. solution of caustic potassa or soda; now wash well, dipping in the acidulated water and washing thoroughly with pure water; afterwards press out and dry quickly."—*Druggists' Circular*, March, 1881.

A New Silver Salt in the Treatment of Organic Nervous Disease.—Dr. Allan McL. Hamilton (*Lancet*, vol. i., 1881, p. 291) suggests the employment of the tribasic phosphate of silver,—a salt obtained by precipitating a solution of argentic nitrate with a solution of trisodic orthophosphate. The precipitate is washed with distilled water and dried in the dark. It is a heavy powder, of a lemon-yellow color, darkening slightly on

exposure to the light. Dr. Hamilton has given this salt for months, in doses varying from one-third to one-half of a grain, without any skin-discoloration whatever, and he says that its administration is unattended by the gastric irritability that so often follows the use of either the nitrate of silver or the phosphide of zinc; at the same time, its therapeutical effects are much more pronounced. It is best given with some such excipients as argol and glycerin, for vegetable substances tend to decomposition, and for this reason Dr. Hamilton has discarded confection of roses as an element of the pill-mass. The cases in which he has found this drug useful are sclerosis of the posterior columns; cases of more or less acute myelitis, with disturbance of the bladder and rectum; cases of sclerosis of the nervous substance; and cases of inveterate epilepsy the result of gross inflammatory intracranial changes. He is now giving the drug to patients with cerebral tumor and general paralysis, hoping to produce even in these cases some amelioration.

Permanent Pictures on the Retina.—Dr. W. C. Ayres (*New York Medical Record*, March, 1881) alludes to the fact that it is possible to produce pictures on the retina which can be examined after the death of the animal, and endeavors to answer the question as to whether these pictures can be made use of in medico-legal practice. If a rabbit is confined to a dark room until a sufficient quantity of "visual purple" has accumulated in the retina, and is then exposed to the light with proper precautions, an image of some external object can be made to form itself on the retina. As the visual purple disappears in the light, the animal must be killed immediately if the image is to remain long enough to be examined. While working with Kuhne in Heidelberg, Dr. Ayres endeavored to make an "optogramme," or retinal image of the kind under discussion, and procured a large negative of a photograph of Helmholtz, intending to present the picture as a testimonial to the distinguished professor. Arranging the animal with every possible precaution, and exposing the immobilized eye to the action of light coming from the picture of Helmholtz, Dr. Ayres, after a great amount of trouble, succeeded in producing a picture of Helmholtz,—that is, of his shirt-collar and the end of his nose. Dr. Ayres concludes that it is utterly idle to look for the picture of a man's face, or of the surroundings, on the retina of a person who has met with a sudden death, even under the most favorable circumstances.

A Case of Chronic Vomiting in which no Food was taken but Koumiss for Sixteen Months.—At a recent meeting of the Clinical Society (*Brit. Med. Jour.*, vol. i., 1881, p. 274) Dr. H. Sutherland read notes of the case of a girl 24 years of age on admission, who had been under his care for five years. One year and seven months ago vomiting commenced; the attack came on at first only once a fortnight, but lately it had occurred always once, and sometimes five or six times, a day. As far as could be ascertained, there was no organic disease of the stomach, no tenderness on pressure, cachexia, nor any other constitutional symptoms. Every known remedy was tried to allay the vomiting,—bismuth, opium, hydrocyanic acid, creasote, carbolic acid, hyposulphites, etc.,—without any satisfactory result. All attempts to cure the case by dieting had failed; and the patient could keep nothing on the stomach as food, except koumiss, which she had taken for sixteen months. She was, however, able to retain a quinine and orange mixture, and also sherry in small quantities, for brandy made her sick immediately. The uterus was not displaced. In the discussion following the reading of Dr. Sutherland's paper the employment of koumiss was highly spoken of by several gentlemen, who recommend it especially in the vomiting of phthisis.

Crystallized Aconitia in Facial Neuralgia.—As a result of many experiments with this substance, Dr. A. Dumas (*Med. Times and Gaz.*, 1881, vol. i. p. 97; from *Jour. de Thérap.*) arrives at the following conclusions: 1. Duquesnil's crystallized aconitia is an energetic medicinal substance of great efficacy in facial neuralgias, especially the congestive, and in some other neuralgias *a frigore*. 2. It is useful in catarrhal affections in general, in which it may replace the different preparations of aconite. 3. It should be preferred to all other kinds of aconitia, which are ill defined and unequal in their actions. 4. It is of little efficacy in tic-douloureux, producing only temporary sedative effects. 5. Tolerance is obtainable for it as well as for other alkaloids when it is methodically administered. 6. It may be continued for a long time without any fear of its becoming accumulated in the system. 7. It should be given in very much divided doses, with due intervals,—at first in small doses, and gradually increased. 8. Except in tic-douloureux, it should be continued only in medium doses. Granules carefully dosed up to $\frac{1}{240}$ grain of the alkaloid or $\frac{1}{120}$ grain of the nitrate should be preferred.

Nitrite of Amyl as a Disinfectant of Urine.—M. Weiser claims for nitrite of amyl remarkable disinfecting powers, and employs it as a disinfectant in chronic catarrh of the bladder, using it as an injection in the proportion of three drops to three hundred grammes of water. For the disinfection and conservation of urine to be submitted for examination, he prefers nitrite of amyl to phenic acid.

Argyria following the Frequent Pharyngeal Application of Nitrate of Silver.—A woman aged 46 years noticed a bluish discoloration of the entire cutaneous

surface following repeated pharyngeal cauterizations with the silver nitrate stick. Similar cases have been recorded, one by Krishaber and a second in the *Gazzetta Medica Italiana* (1862). The absorption of the silver salt takes place in part from the mucous surface of the cauterized portion, but principally from the intestinal surface, the products of cauterization being conveyed to the alimentary canal.—*Archives Méd. Belges; Druggists' Circular.*

MISCELLANY.

GUY'S HOSPITAL.—It is assumed that the difficulty at Guy's Hospital is now virtually terminated in favor of the medical staff, by the publication of a series of regulations bearing on the nursing arrangements to be observed in future. These virtually concede the principal demands originally made by the physicians and surgeons, and they provide, further, for the proper limitation of the authority and duties of the head of the nursing department. A lady-nurse is to have charge of each ward, and to have under her direction two head-nurses; and special provision is made for retaining the services of the nurses in the wards to which they are appointed, thus removing the highly-objectionable feature of frequent changes, against which there has been a very justifiable outcry from the first occurrence of the differences. Another improvement is that at the end of twelve months' service as probationers candidates for the post of nurse will be required to exhibit a certificate, signed not only by the matron, but also by the medical officers.

MEDICO-DRAMATIC CRITICISM.—The *Lancet*, calling attention to Mr. Tennyson's new drama, "The Cup," now being played in London, says that the male and female actors who have been poisoned by the same draught show quite different toxic symptoms. Mr. Irving says,—

> "I pray you lift me,
> And make me walk awhile; I have heard
> These poisons may be *walked down:* my feet
> Are tons of lead."

He is then partially raised by one of his retinue, but dies apparently in convulsions, with marked opisthotonus. On the contrary, Miss Ellen Terry, who has swallowed somewhat less of the poison, lives long enough to see the other party die, and then herself succumbs *quietly* in the arms of one of her handmaidens. The feeling of weight in the limbs points to opium-poisoning; but, then, why the convulsions? and why do not both actors show the same symptoms?

PROFESSOR R. O. COWLING, so well known as editor of the *Louisville Medical News*, died April 2, 1881, of rheumatism attacking the heart.

BACKACHE.—Mr. Wm. Squan, writing to the *British Medical Journal* (vol. i. p. 229), says that many weak-looking girls owe the pain in the back which they complain of as being worse in the morning to sagging of the bed. He suggests a pillow under the spine.

A NEW public chemical laboratory is about to be opened in Paris, where there will be experts at the service of the public prepared to analyze on demand all articles of consumption,—wine, coffee, chocolate, etc.,—for very small fees.

"PORTAGIOUS" DISEASE.—Medical Inspector Gibbs, U.S.N., suggests in a letter to the *New York Medical Record* the word "portagious" to designate those diseases produced by portable germs, which are *carried into contact*, as the etymology implies.

DR. CANQUOIN, the inventor of the paste of chloride of zinc known by his name, has recently died at Dijon, in his eighty-sixth year.

NOTES AND QUERIES.

OBITUARY.

ARMY MEDICAL SCHOOL, ROYAL VICTORIA HOSPITAL,
NETLEY, 30th March, 1881.

MY DEAR SIR,—I cannot describe the sorrow I feel at the sad tidings which your circular note of the 25th ultimo has just conveyed to me, nor can I in any adequate manner express my sense of the immense loss surgical science has sustained—especially the science of military surgery—by the death of your indefatigable and talented assistant, Surgeon Otis. Still I feel I must write a few words to say how deeply I sympathize with you and with all the medical officers under your direction in the grievous loss you and they have sustained in the death of so distinguished a member of your corps. Military surgery and all who are engaged in its practice in every part of the world—and, I might add, every one who may happen to be in need of military surgical help—owe, under the liberality of the United States government and your auspices, a debt of gratitude to Surgeon Otis which, though it can never be repaid, will never be forgotten as long as the great "Surgical History of the War of the Rebellion" and his other admirable works exist. It is with perfect truth that you remark the death of Surgeon Otis will be deeply deplored not only by the members of the medical profession in his own service and country, but also by the medical profession of the whole world.

Believe me to be,
My dear Sir,
Very faithfully yours,
[Signed.] THOMAS LONGMORE,
Surgeon-General, etc.

MAJOR-GENERAL J. K. BARNES,
Surgeon-General,
United States Army, etc., etc., etc.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM APRIL 3 TO APRIL 16, 1881.

MOFFATT, P., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty at Camp Spokane, W. T., and ordered to Fort Walla Walla, W. T., until further orders, for medical treatment. S. O. 35, Department of the Columbia, March 20, 1881.

BIRMINGHAM, H. P., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—So much of par. 1, S. O. 62, March 17, 1881, from A. G. O., as relates to him, is suspended until May 1, 1881. S. O. 85, A. G. O., April 14, 1881.

COOPER, GEORGE E., LIEUTENANT-COLONEL AND ASSISTANT MEDICAL PURVEYOR.—Died at San Francisco, Cal., April 13, 1881.

PHILADELPHIA, MAY 7, 1881.

ORIGINAL COMMUNICATIONS.

THE TREATMENT OF HIP-JOINT DISEASE BY THE PHYSIOLOGICAL METHOD OF EXTENSION.

BY JOSEPH C. HUTCHISON, M.D.,
Surgeon to the Brooklyn City Hospital.

Read before the Philadelphia Academy of Surgery, April 4, 1881.

THE object of this paper is merely to describe a plan for the mechanical treatment of morbus coxarius which I believe is more simple, effective and agreeable to the patient than the methods ordinarily employed.

While it is unnecessary, before this Society of experienced surgeons, to call attention to the symptomatology of hip-joint disease, I desire to refer to one symptom, viz., *fixation of the joint.* And this I do for the reason that it bears an important relation to the treatment which I propose to submit for your consideration this evening, and also because it is one of the most characteristic symptoms of the disease. Fixation of the diseased joint to a greater or less degree is a symptom which has not always been duly appreciated. Some of the best surgical text-books have omitted to mention it; and yet I will venture to say that there is not an experienced surgeon present who has not observed it as an early symptom of hip-disease. Muscular rigidity may not be sufficient at first to arrest motion in the joint, and it may be overlooked by a careless observer, but as the disease advances this rigidity generally increases, until the arrest of mobility becomes complete and is recognized by all.

Barwell ("Diseases of the Joints") enumerates "more or less immobility" among the symptoms of the first stage of hip-disease, the immobility increasing as the disease progresses.

Professor A. C. Post,* in describing the symptoms of the second stage of morbus coxarius, says, "The joint seems often in this stage to be anchylosed: the rigidity, however, is the result simply of muscular contraction. The division of the muscles which surround the hip-joint, or the evacuation of the fluid contained in the capsule, will remove this rigidity, which seems to constitute the anchylosis."

* American Medical Times, vol. ii. p. 278.

Bauer,† in calling attention to some "symptoms" of morbus coxarius "of great importance," says, "*The immobility of the affected joint* is so complete that scarcely the slightest movement can be effected." On p. 265 of his "Orthopædic Surgery," he says, "The mobility of the joint may be impeded or entirely suspended;" and on p. 269, "The joint, being more or less tender, is well taken care of by the patient and protected against incidental injuries: one of the means of doing this is the voluntary effort of the muscles to keep the joint at rest."

Sayre says,‡ "In the first stage very limited motion can be made at the joint. Abduction, adduction, and rotation are limited, and when carried beyond a certain point the pelvis at once moves with the limb, giving the patient an appearance as if complete anchylosis had taken place at the hip-joint. But there is no real anchylosis present in this stage of the disease. There is anchylosis perfect and complete to all *appearance*, but it is due simply to muscular rigidity. . . . The immobility which is present in the second stage, resulting from over-distention of the capsule and muscular rigidity, is usually well marked. *If left to itself, the rest which is so essential to the joint is procured by the firm muscular contraction which prevents motion, and this is so perfect, in many instances, as to assume the appearance of genuine bony anchylosis.*"

Dr. Shaffer§ says that "persistent reflex muscular spasm is an invariable symptom of chronic osteitis of the hip-joint. . . . This muscular spasm increases, as a rule, with the limp; but many months, or even years, may pass before it reaches the point where *all movement of the joint is arrested*, and cases may occur where the spasm simulates *actual anchylosis.*"

Immobility of the joint is both voluntary and involuntary. It is not due merely (1) to reflex contraction of the peri-articular muscles, because it continues also during sleep, when all voluntary action is suspended, but likewise (2) to intra-capsular effusion, which produces not only immobility of the joint, but various distortions of the limb as well, as has been proved by the well-known experiments of Prof. Weber, of Bonn, which consisted in

† New York Journal of Medicine, vol. ii., N. S., p. 162.
‡ Lectures on Orthopædic Surgery, p. 238 *et seq.*
§ The Hysterical Element in Orthopædic Surgery, pp. 24, 35, 36.

injecting the normal cotyloid cavity with water; and (3) to the voluntary effort of the patient to keep the joint at rest, because the slightest movement develops pain, and, moreover, if he is induced to execute a movement it will be seen that it is not the hip-joint that moves, but the whole pelvis at its lumbar articulation.

Rigidity of the joint is best shown by undressing the patient and placing him upon his back on a firm flat surface. The sound limb is flexed so as to place the knee in contact with the chest, when the spinous processes of the vertebræ and the back of the pelvis will lie flat upon the table: while the sound limb is held in this position, the suspected limb becomes more or less bent at the knee, and the popliteal space cannot be brought to the table by the efforts of the patient. When the sound limb is released from its flexed position and the patient directed to extend the diseased limb so as to bring the popliteal space down to the table, the pelvis is tilted and the lumbar vertebræ curved so that the hand can be placed between the child's back and the table.

This examination can be made without giving the patient pain, and it enables the surgeon to determine with great certainty the presence of hip-joint disease, even in the very early stage; indeed, I may say, with quite as much certainty as at a later period. I dwell with some emphasis on this diagnostic point, believing as I do that it has not received the attention that it merits, and all the more because an early recognition of the disease is extremely important.

I do not wish to be understood as asserting that fixation of the joint by reflex muscular contraction is pathognomonic of hip-joint disease, for this condition often exists in hysterical joint-affections to such a degree as to simulate true anchylosis. But a careful observer will be able to distinguish the real from the mimic. In hip-disease the rigidity is persistent and unvarying night and day, and cannot be overcome when the patient's mind is diverted. In hysterical joint-affections the muscular contraction varies, and can be subdued by gentle, persistent efforts to flex and extend the limb when the patient's attention is drawn away, and it disappears during sleep. Various emotional phenomena are also observed in this class of cases, so that a little clever management will enable the surgeon to recognize the hysterical element. In doubtful cases we may be aided by the use of the faradic current, as suggested by Shaffer. In the true muscular spasm of joint-disease the faradic reaction of the muscles is diminished, whereas in hysterical conditions of the joints the muscles respond normally to the faradic current. This is, I think, a valuable suggestion.

Increased temperature of the part, which is one of the most characteristic symptoms of inflammation in most of the joints, cannot, unfortunately, be relied upon in the case of the hip-joint, which is situated so deeply that an abnormal temperature cannot in all cases be recognized by the surface-thermometer.

In the treatment of hip-disease we direct our attention to the relief of pain and the prevention of deformity. By the methods used to accomplish these indications we control the disease, or rather we put the patient in the best possible condition for getting well: we remove as much as possible the *morbi causa*. We do not cure the disease, but we may remove the condition which keeps up and aggravates the morbid irritation, which, while continuing, prevents any real improvement. *What is the cause of the pain* about the hip- and knee-joints, which in many cases is entirely located at the latter joint? This inquiry seems to be especially pertinent because clinical observations teach us that the severity and duration of the disease are in proportion to the degree of pain the patient experiences, and recovery takes place *pari passu* with the diminution of the pain. And whatever increases the pain, as a general rule, increases also the articular disease. Therefore it is important to ascertain the cause of the pain, and to remove it if possible, in order that the patient may be put in a condition favorable for recovery. A certain amount of pain is caused by the distended vessels pressing upon the nerves involved in the inflammation: this is true in all inflammations, but it is especially so in unyielding textures, such as enter into the structure of the hip-joint; and when we consider the close relationship of the nerve-trunks both to the hip- and the knee-joint, the anterior crural sending a branch to the hip-joint and the obturator contributing a branch to the capsular and round ligaments, and also to the inte-

rior of the knee-joint and the inner side of it, it is not surprising that they should suffer when inflammation exists in the hip-joint. But the most important influence by far in the production of pain is the violent spasmodic contraction of the muscles which press together the inflamed and sensitive surfaces of the head of the femur and the acetabulum. This is shown by the prompt relief from the most acute suffering which is at once afforded by simply taking hold of the ankle and extending the leg forcibly but gently, or by applying the weight and pulley, or by placing the patient upon a high shoe and crutches, extension being made by the weight of the leg. The portative apparatus of Davis, and its numerous modifications by others, designed to produce extension as well as to fulfil other indications, show the importance their designers or modifiers attach to overcoming muscular contraction in order to relieve pain. And, notwithstanding Barwell ascribes the pain to other causes as well, the much greater importance which he attaches to muscular contraction as a causative agent is indicated by his repeated statements that while the sharp pains continue there is constant muscular contraction, pressing the bones together, which is proportionate to the continuous wearing pain which is usually referred to the knee.

Extension, both for the purpose of subduing abnormal contraction of the muscles and for correcting the malposition of the limb, may be regarded as a *sine qua non* in the treatment of hip-joint disease. So far as I know, extension as a *curative agent* in the treatment of morbus coxarius was first used by the late Dr. William Harris, of Philadelphia, and in 1839 he published an account of three cases, two of which were treated by such an apparatus as was used in the treatment of fractures of the thigh in the straight position, and one with Hagedorn's splint. For many years previously, extension and counter-extension had been used for the purpose of overcoming deformity after the disease had subsided, but not for the purpose of relieving pain and controlling the morbid condition. The suggestion of Harris seems to have been forgotten, and for a long time we heard but little said of mechanical extension, except for removing deformity. At the present time the importance of extension as a means of curing morbus coxarius, as well as for preventing and overcoming deformities, is almost universally recognized. This is shown by the number and variety of appliances which have been devised to satisfy this indication.

Does extension accomplish anything more than the relief of reflex muscular contraction and its consequences, and the prevention or correction of deformity?

It has been claimed by respectable authorities that we can by extension separate the head of the femur from the acetabulum; but it has been demonstrated by the well-known experiments of Barwell, made on healthy subjects, recently repeated by Bradford, of Boston,* that the bones cannot be separated to an appreciable extent by any amount of extension that can be applied, even when all the muscles and the capsular ligament itself have been divided. Weber affirms† that the head of the femur in its normal condition is held firmly in place by atmospheric pressure, while Barwell maintains that it is kept in place by what he calls the "cohesive contact" which takes place between the joint-surfaces. The question must still be regarded as under judgment; but I incline to the opinion of Barwell, that extension affords relief by preventing the diseased surfaces from being violently jammed together, and not by separating the head of the femur from the acetabulum.

In the treatment of hip-joint disease, the essential indications are, in addition to improving the patient's general health by judicious medication and proper hygienic influences, (1) that there shall be sufficient *immobility* of the joint to prevent the injurious effects of the motion and consequent friction of the inflamed surfaces; the immobilization of other joints when inflamed is considered an essential part of the treatment, and, with due respect to the opinions of some very high authorities, I can see no reason why the hip-joint should form an exception to this surgical axiom; (2) to overcome muscular spasm, and to obviate and correct deformity by means of *extension;* (3) to remove the weight of the body from the joint, and to provide means for enabling the patient to take open-air exercise with comfort and safety.

The method which I have found most satisfactory and comfortable both to my-

* Boston Medical and Surgical Journal, November, 1880.
† Müller's Archives, 1836, p. 54.

self and to my patients I have designated in another place "the physiological method,"* and I must still claim the privilege of using the word "method," notwithstanding I have been sharply criticised by a respectable reviewer for having done so. The plan consists in placing upon the foot of the sound side the shoe ordinarily used for shortened leg (which should be high enough to prevent the toes of the diseased side from touching the ground), and putting the patient upon a pair of crutches. By these simple appliances all the indications are fulfilled for the successful treatment of morbus coxarius and *the prevention of deformities*, which are sure to occur unless obviated by appropriate means.



Immobility sufficient to prevent injurious motion and friction is obtained, as we have already seen, by nature's expedients,—chiefly the reflex contraction of the peri-articular muscles, aided by intra-capsular effusion and the voluntary efforts of the patient to keep the joint at rest, in order to avoid pain. Nature fixes the joint more satisfactorily and in a kindlier way than we can by our most ingenious appliances.



Extension is made by the weight of the suspended diseased limb, which is equal to one-fifth of the weight of the entire body, and is sufficient to overcome the muscular spasm which increases the pain and perpetuates the disease by jamming together the inflamed surfaces. The extension obtained by the limb of a child weighing, for example, sixty pounds would be twelve pounds and a half, which is more than can be borne when the case is treated in bed by the ordinary weight and pulley. Extension produced by the weight of the limb is efficient, and at the same time more grateful to the diseased parts, because it is less arbitrary and constraining, and therefore excites less reflex resistance than any method I had previously employed. The muscles are persuaded, so to speak, to relax, instead of being compelled to yield by force, which irritates and stimulates them to resistance and spasm. Kindly treatment is often more effective than compulsion in accomplishing our purposes; and this is true as well in physic as in morals. There is a certain instinctive unconscious recoil in the mind of every patient, young and old, against all the various devices of constraint or imprisonment which a splint or apparatus implies.

Muscular rigidity should not be confounded with muscular spasm. The former may exist to such a degree as to produce apparent anchylosis, and yet the patient experiences no pain, but when reflex spasm takes place violent pain is developed. Extension gives relief not by overcoming *completely* the muscular rigidity, — this would not be desirable, because too much motion would then be permitted in the joint,—but by stretching the contracted muscle sufficiently to prevent the development of reflex spasm.

The patient should walk or stand upon the crutches three or four hours every day; and there is no difficulty in inducing him to do this when he has learned that by suspending the limb he is relieved from pain. The use of the crutches for three or four hours daily appears to relax the muscular rigidity sufficiently to prevent the recurrence of the reflex pain at night. Why this should be accomplished more efficiently when extension is made by the weight of the limb unencumbered by the rigid appliances ordinarily used, which do not produce extension as is claimed by their respective authors, the extension which they are supposed to make being made merely by the weight of the limb, is easily explained. The unyielding iron apparatus and the perineal band irritate the muscles and worry the patient, so that muscular spasm is not so completely over-

* Contributions to Orthopædic Surgery, Putnams, 1880.

come as when extension is made without their use. It is a delusion to suppose that they add in the slightest degree to the force of the extension; and, if they did augment the extension, it would be unnecessary, for the weight of the limb gives all the extension that is required.

The objection to the extension splint of Davis and its various modifications, that the extension strap slackens or the instrument bends in walking, so that all extension is lost, is said to have been remedied by a splint devised by Shaffer, of New York. But if, as I maintain, the weight of the limb gives all the extension necessary, why should we encumber our patients with irksome appliances, however well they may accomplish their designs, which require the unremitting vigilance of the surgeon to maintain their efficiency and to prevent excoriations? The portative appliances in ordinary use are designed to accomplish diverse indications, and may be divided into two classes. The first, represented by the apparatus of Davis and its modifications, is intended to combine *motion of the joint with extension;* while the purpose of the instruments of Bauer, Barwell, Andrews, and others, is to secure *immobility of the joint with extension.* Now, with all due respect for the surgical skill and ingenuity of these respective gentlemen, I am convinced that neither class of appliances accomplished the objects claimed for them. A close observer will notice that a patient who wears an instrument belonging to either class swings the whole pelvis as he walks; and this is due to the movement which takes place between the sacro-lumbar articulations; but there is no motion at the hip-joint. A kind and overruling Providence compels immobilization of the joint in spite of the efforts of the surgeon to prevent it.

That the instruments of the second class do not fix the joint must be evident when we consider that they only extend upward an inch or two above the joint, and no instrument can control the movements of the joint which does not extend a considerable distance above (as high as the thorax) as well as below the articulation. There is manifestly a disproportion between the object to be attained and the power applied to attain it. No surgeon would expect to fix the knee- or elbow-joint by splints unless they were carried both above and below the joints for some distance.

If the appliances referred to are wholly inefficient to accomplish what is claimed for them, and are deceptive as to the manner in which results are obtained, how do we explain the fact, it may be asked, that so much improvement has been reported from them, when compared with others not having their features? These favorable results may be accounted for by the fact that the use of portative instruments has liberated patients from confinement within-doors, and enabled them to enjoy the benefits of open-air exercise, instead of being treated in bed as was formerly done, and also because *the principal indications—immobility and extension—are obtained independently of the apparatus used, by the reflex contraction of the muscles which surround the hip, and by the weight of the limb.*

These appliances have done good service in the cause of humanity, and are creditable to surgical ingenuity; but I am sure we can accomplish results equally satisfactory by simpler and less irksome expedients.

It has been objected to the physiological method of extension that unless the children are watched constantly they may lay aside their crutches and bear the weight of the body upon the limb. This I have known to occur; but when they suffer pain from this cause they are not likely to repeat the experiment, for even very young children soon learn that suspending the limb gives relief. The remedy for the pain is in their own hands, and they readily apply it with the co-operation of the parent. But the same objection exists to other appliances. Every surgeon knows that when he applies any of the ordinary splints he is sure to find it relaxed the following day, on account of the pain and irritation they produce, and it requires the constant supervision of professional skill to keep it properly adjusted: it cannot be left to the care of the nurse or parent. And the same objection can be made to the weight and pulley. If the hospital ward is visited at a late hour of the night, we will often find patients who have the weight and pulley applied lying on their sides with the diseased limb flexed, so that extension is made from the knee instead of the hip.

Another objection which has been urged to physiological extension is that it is efficient only when the patient is in the erect position. Abundant experience has shown that the weight of the limb acting upon

the peri-articular muscles gently, without irritating them, for three or four hours daily, is sufficient to overcome the tendency to spasm of those muscles, as already stated, to such a degree that the joint-surfaces are not jammed together by muscular spasm. Why this should be so when extension is made without apparatus, while we get the same amount of extension with apparatus and by the same means, viz., the weight of the limb, has already been explained. The point is that the physiological extension is made without irritating the parts or stimulating the muscles to resistance, and therefore the spasm is more completely overcome.

It has also been objected that the plan of treatment herein advised does not prevent the deformities which are so liable to occur in hip-disease.

Deformities the result of muscular contraction can only be prevented by overcoming such contraction; and no plan to accomplish this has been suggested except that of extension in one way or another, or myotomy. The simplest and least inconvenient method of producing extension is by suspending the limb; and this produces as much extension as can be borne as a rule, or as can be made by more complicated expedients, and is, therefore, to say the least, quite as efficient in preventing and overcoming deformity as any other method. Even with the weight and pulley applied in bed, more weight cannot be borne than that of the suspended leg itself. It has been said that as the powerful muscles which control the hip-joint lift and swing the parts below, they cannot be extended merely by the weight of the limb. This I am sure is an error, for it is the abnormal contraction of these muscles, the approximation of their points of origin and insertion, that is to be overcome by the weight of the limb. The same objection would apply to extension made by a weight applied with the patient in bed. In the one case, as in the other, the leg is supported and held in contact with the body by the strong peri-articular muscles, whose abnormal contraction must be overcome by extension. Since I began to use this method I have not found in any case a necessity for using any other method of extension as a *curative agent*, even at night, than the weight of the limb, except when the patient was too young or too feeble to use crutches, and in the comparatively rare cases of acute articular coxalgia attended with great constitutional disturbance, compelling the patient to keep his bed. The latter class of cases can only be treated with the long splint or the weight and pulley, the former with Darrach's wheeled crutch or the ordinary go-cart, which permit open-air exercise, in conjunction with the elevated shoe. I have, however, learned that other surgeons have found that the weight of the limb was not sufficient in exceptional cases to prevent the muscular contraction incident to the disease; and this may be my experience in the future. These cases were not, however, treated subsequently by the portative extension splint, but by the weight and pulley, necessitating the confinement of the patient to bed.

In cases of deformity from muscular contraction, a result of the neglect of proper early treatment, weight extension may be used with advantage: it enables us sooner to overcome the flexions of the limb. In such cases, weighting the heel of the shoe on the diseased side, when increased extension can be borne, also hastens the removal of the deformity.

Neither have I found it necessary in any case to fix the joint more completely than is accomplished by the reflex contraction of the peri-articular muscles, the intra-capsular effusion, and the voluntary effort of the patient to keep the joint quiet. Nature secures all the immobility required in such cases better and more gratefully to the patient than the most ingenious appliances that art can suggest.

I am aware that this paper contains no facts or suggestions which I have not previously presented to the profession, and I should not have presumed to occupy the time of your Society this evening had I not been solicited to do so by two of your most distinguished members, and on them I must throw the responsibility for my persistence in trying to awaken here an interest in a plan for the treatment of morbus coxarius which seems to me to be entitled to consideration. I was, moreover, gratified to have the opportunity to emphasize certain positions expressed in my former papers, to say that a more extended experience induces me still to adhere to the main points of my early argument, notwithstanding it has received the compliment of adverse criticism on the part of some of my reviewers, and also to say that,

although relatively a stranger to many of you, I ask no quarter, but cordially invite candid and independent discussion of the views I have expressed in this paper, to the end that we may, aided by your knowledge, skill, and experience, leave the rational treatment of morbus coxarius better understood than we found it.

Thanking you, gentlemen, for your courtesy and attention, I commit the subject to your hands.

SOME OBSERVATIONS ON THE CARLSBAD TREATMENT.

Read before the Philadelphia County Medical Society, January 26, 1881,*

BY E. T. BRUEN, M.D.

IN common with many of those I address this evening, I have used with much good effect in selected cases the Carlsbad salt. It is needful only to remind this body of the more powerful physiological action of certain drugs when administered in dilute solution, to explain the advantages of these prepared salts. One of the most original applications of the above facts to the treatment of disease will be found in a paper by Dr. John Guitéras in the *Philadelphia Medical Times* for June 5, 1880, entitled "The Therapeutic Advantages of Administering the Iodide of Potassium Fasting, with Some Remarks on Interstitial Hepatitis with Enlargement of the Liver." In this paper is discussed the advantage of administering alterative drugs in dilute solution while fasting, and the opinion is expressed that the physiological action of the drug is much intensified. I can confidently corroborate the statements of Dr. Guitéras, and as, during a recent visit to Europe, I spent some time at a number of Baths, including Carlsbad, I will offer the results of my notes: these comprise the varieties of cases I found in the habit of visiting Carlsbad, the benefit derived, the action of the waters, and the after-treatment advised by the local physicians. It must be borne in mind that the Carlsbad salts do not represent the waters as they issue from the laboratory of nature. The Carlsbad salt is merely, after all, Glauber's salt: the true waters contain, in addition, carbonate of sodium 13 grains, sulphate of sodium 20 grains, to the pint, besides a fair amount of chloride of sodium, some carbonate of lime and magnesium, with free carbonic acid, at a varying temperature from 122° Fahr. to 166° Fahr. I am inclined to think that those who consult the books published by the resident physicians at the German baths will find them to yield information comparable to the Yankee's definition of a flea, viz., "A critter which, when you put your finger on it, warn't there." However, in a recent book† by Dr. J. Kraus the reader will find a good analysis of the waters, some facts as to the climatology of the place, and, included in a letter from an ex-patient, many useful hints are given as to the method of life, the dietary most suitable, the personal hygiene, and the best route to follow in a journey to Carlsbad.

The cases resorting to Carlsbad may be divided into three classes: 1. Cases of enlargement of the liver and spleen, as a sequence to repeated congestions induced by continued dyspepsia or chronic malaria, interstitial hepatitis, or primary stage of cirrhosis, especially when jaundice and deficient intestinal digestion persist, and also cases of chronic indigestion with deficient assimilation, whether or not constipation be a prominent symptom. 2. Cases of chronic rheumatism or gout. 3. Cases of the gouty state, or those obscure cases attended with renal congestion or inactivity, as evidenced by the passage of a deficient amount of urine of low specific gravity, usually associated with deficient vaso-motor tonus. These cases are subject to transient attacks of headache or hysterical nervousness. These cases, as I shall show later, are often much benefited, some cured, by a course of the waters. The springs differ from each other chiefly in temperature, which is high where it issues from the source, ranging from 166° Fahr. to 122° Fahr., and in the amount of carbonic acid contained in them. It is usual for patients to rise about six o'clock and to spend about two hours at the spring, taking at fifteen minutes' interval three or four ounces of the water. Beginners usually indulge in from twelve to sixteen ounces a day; the amount is often carried up to twenty-four or thirty ounces. Exercise is taken while drinking the waters, and then resort is had to the hotel. Later I shall observe that a strict diet is fundamental to the success of "the

* The discussion on this paper will be found in the *Medical Times* for April 23.

† Carlsbad: Its Natural Healing Agents.

cure:" the diet consists of a light breakfast of eggs, bread, and coffee; at noon, meat (steak or chicken) constitutes the meal; in the evening the same meal is repeated. No one under the "cure" will venture on a *table-d'hôte*, or even a more liberal meal, but this strict regimen is possible, since every one eats at one of the numerous restaurants, one of the features of the place. Early hours and moderate exercise are especially enjoined. Now as to the effects produced. Most persons experience a laxative action, not a purgative effect; but I have known other cases in which the compound liquorice powder was used daily to produce movements of the bowels. Without exception, individuals experience the most profound exhaustion, and usually profound anæmia ensues. In most cases the urine is notably increased in amount, and at times is of a blackish-green color. The stools are often greenish, doubtless owing to the increased secretion of bile; in the urine the color is perhaps due to the destruction of the red blood-corpuscles. For it would seem that the alterative effect of the waters is so great as to make the systemic condition resemble that induced by too generous use of the potassium salts. Patients have frequently said to me, "Doctor, I cannot endure this treatment; it is too reducing; my strength is ebbing away." Notwithstanding this, the treatment is continued for three weeks or a month, the period of the "cure," and the patient is despatched to Ischl, St. Moritz, or some other springs the waters of which contain iron, and thus the blood-crasis is restored. In persons weakened by previous long sickness, recuperation is very slow after a Carlsbad course: indeed, it appeared to me that the treatment is pushed too far with these cases. Sir Henry Thompson has said* that he is quite as well satisfied with a smaller amount, "say six to eight ounces given daily during six or nine weeks, instead of the usual three weeks of the foreign course." I incline to think that the restricted diet contributes very much to the favorable result usually attained.

To illustrate: alcohol, or any fermented liquor, is to be used in its most dilute and purest form, or relinquished altogether; sugar, fatty matters, butter, cream, fat of meat, are proscribed; the fruits are not allowed, and vegetables and good fish are unattainable. In serious cases, a repetition of the course every three or four months is found advantageous, provided the patient's strength at all permit: too much must not be hoped for from a single course. The effect of the salts of potash, when administered continuously, is to increase the oxidation of the tissues, and anæmia is brought about.† Apparently the same effect can be brought about by the salts contained in these waters.

Let me now append the outline of the history of two cases which I had the opportunity to examine in Carlsbad, both before and after treatment:

A gentleman, a resident of one of our Southern States, had been subject to frequent attacks of chills and fever, had been through an attack of yellow fever, and had previously been broken down by life in the Southern army during our late war. The liver extended three finger-breadths below the ribs, the spleen included three times its normal area, there was continued pain over the liver, with intestinal indigestion, hemorrhoids, and constipation. After a three-weeks' course, the liver was reduced to normal size, the spleen also, but the exhaustion was extreme, there had been a loss of nearly twenty pounds of flesh, anæmia was profound, digestion was capricious, the hemorrhoidal veins dilated. In all the patient's stay at Carlsbad no more than a laxative effect had been produced by the waters. In this case, after eight weeks' stay at Ischl and St. Moritz, a general improvement occurred, and when I left him in Paris in September he was better than he had been for years, and the anæmia was yielding to small doses of iron and bitter tonics.

The second case was that of a gentleman from New York, fifty years of age, in whom the liver and spleen were also much enlarged, and dyspepsia and anæmia very pronounced. In this case, also, reduction in the size of both liver and spleen occurred, but the force of the cardiac beat was alarmingly reduced. There were attacks of fainting, with fluttering action of the heart; also numbness of the arms and legs was frequently complained of, and the temptation was strong to discontinue the treatment, but it was persevered in for four weeks. In this case recuperation has been very slow, and at date the strength of this gentleman is less than before the treatment. At the same time the appetite is good, and the anæmia is slowly abating. At the termition of the Carlsbad course the springs of Franzensbad were selected for this patient, because of their contiguity to Carlsbad. The patient's weakness after the course was so extreme that a long journey was impossible.

* Early History of Calculus and its Treatment.

† Wood's Therapeutics, p. 486.

The waters of these springs are ferruginous, and, as I shall presently state, it is the custom to follow the Carlsbad course with a tonic regimen. The cases exhibit how powerful a therapeutic ally we possess in the Carlsbad waters; but the cases must be carefully managed while under treatment.

I noticed a group of cases at Carlsbad sent there for the mitigation of symptoms, such as come-and-go headache, ascribed to vaso-motor weakness, evidenced by the tendency to change color readily. In these cases there was often associated flatulent dyspepsia. The stimulation of the carbonic acid in the waters seemed to be beneficial by equalizing the circulation: the headache would disappear, the tongue become clean, and the dyspepsia often vanished. Some English gentlemen told me they could only secure a clean tongue by an occasional visit to Carlsbad. The headache I have designated as come-and-go headache because it is peculiar in this respect, that it is not persistent, but comes on suddenly in the night or at any part of the day. It is temporarily relieved by any warm not too stimulating drink, such as these waters. I noticed, however, that warm milk frequently seemed of as much service; but the patients themselves were satisfied that Carlsbad was alone their resource.

A word as to the climate of Carlsbad. This is frequently variable, as in all high latitudes, and an abundant supply of clothing of different textures is advisable.

The after-cure consists in despatching the patient to some mountainous resort possessed of a ferruginous spring. At present two localities are fashionable,—Ischl, in the Austrian Tyrol, and St. Moritz, in the Engadine. Ischl, in my opinion, has superior attractions for "after-cure" patients. The climate is equable, the diet good, the hotels comfortable, and the adjacent country interesting. For instance, one is then close to the mines of Saltzburg; the Austrians frequent Ischl; variety and diversion in the surrounding life are thus obtainable. St. Moritz is situated at an elevation of six thousand feet above the sea. It is a beautiful valley, surrounded by imposing scenery. But the climate is variable; they have but one really comfortable month, and that is sometimes July, and sometimes August. The adage of the inhabitants is "nine months winter, and three months cold." I was there in the latter part of July and the first part of August: variations of temperature were frequent, as much as fifteen or twenty degrees, sometimes, in a day, the average height of the thermometer being 60° Fahr. to 65° Fahr. The sun at mid-day is often hot, but the climate is too cold for anæmic people. The hotels are not well kept, and, what is worse, the drainage of both hotels and village is conducted into the river Inn. This river runs low during August; the drainage-pipes are thus exposed above the surface of the water, and the air around the large hotels is very impure. Were it not for the elevation and the wonderfully-exhilarating alpine air, I fear the effect of this vitiated atmosphere would be very noticeable. The matter of drainage is equally imperfect at Carlsbad, and it is a serious drawback to its otherwise great advantages.

I can recommend, however, the waters of St. Moritz. The proportion of iron is very small, the water is universally well digested, and, as it is rendered sparkling by the carbonic acid, it is very acceptable to the taste. The baths, which are a feature of the place, are very agreeable. Water from a spring similar to that used for drinking is employed, and the stimulating effect of the carbonic acid to the skin reminds one of the exhilarating effect of an ocean-bath. The waters are warmed by steam to any desired temperature, and after leaving a bath the circulation is equalized, and, as I said, the sensation is one of exhilaration. The bath-rooms are comfortable, but the tubs are wooden, without tile lining, so common elsewhere, and I fear they are not as clean as might be.

The remarks on the climatology of St. Moritz do not apply to the other regions in the Engadine. Pontresina, a village a few miles distant, is situated in a smaller valley, and is much less visited by high winds; but, as there is no iron spring, a daily ride to St. Moritz is obligatory. After a course of life as above described, careful diet is most important, and, although it is said to be well to leave these high latitudes gradually, after conversing with many travellers I incline to think a return to Paris or England, or for Americans a return to the United States, is far better, even at the cost of returning a second time to Carlsbad. Fish, oysters, and fresh vegetables are articles of supreme importance in a dietary, and these cannot

be procured unless in the localities I have named.

The above facts are personal observations. I have no personal testimony as to the value of the waters in the treatment for prevention of calculi, renal or hepatic.

For a treatise on the former subject I recommend the perusal of Sir Henry Thompson's work, already alluded to. For the latter, the assertions of J. Kraus must be consulted. To his work I must also refer for a statement that these waters are of value in the treatment of diabetes, although no details are given as to results.

At Carlsbad the Giesshübler Lauerbrunn water is recommended as a suitable drinking-water, the imperfect draining of the place rendering the natural water undrinkable. It is a very feebly alkaline water, of agreeable taste, but, as an alkaline water, inferior to Vichy or seltzer water, in my estimation.

ETHYLENE BICHLORIDE AS AN ANÆSTHETIC AGENT; WITH A CONSIDERATION OF ETHYLENE METHYLETHYLATE, ETHYLENE ETHYLATE, ETHYL NITRATE, AND ETHYLIDENE BICHLORIDE.

BY EDWARD T. REICHERT, M.D.

ETHYLENE BICHLORIDE, or ethene bichloride, or better known as "Dutch Liquid," and isomeric with the ethylidene bichloride, or ethidene dichloride, which has lately attracted attention through the investigations of the British Chloroform Committee, was first used by Simpson as an anæsthetic agent, and more recently by Nunnelly,* who, after making fourteen experiments on the lower animals and a number on his own students and patients, states that he found it in every way agreeable. In mammals thirty or forty minims were sufficient to cause complete anæsthesia in from two to five minutes, and with a like quantity six out of seven students were rendered completely insensible, although a second dose of twenty minims was occasionally given. In six surgical cases he used it with perfect success, and later in his paper concludes that chloroform is in no respect superior, for the animals were rendered perfectly anæsthetized in quite as short a time, showed no uneasiness while passing into this condition, remained perfectly still while in it, and, in recovering, were altogether free from any unpleasant symptoms; and, further, that if animals were rendered so profoundly anæsthetized by chloroform as with it, they would not have recovered, and that although just as small a quantity would cause anæsthesia as would chloroform, yet a much larger quantity was required to destroy life, and hence its greater safety. Simpson,† who had previously used it, stated that when its vapor was inhaled it caused so much irritation in the throat that but few persons could endure inhaling it until anæsthesia was produced. He, however, certifies that he has seen it inhaled perseveringly until anæsthesia and its usual phenomena were present, and that this condition was not attended with any excitement of the pulse or subsequent headache, and when he took it himself it produced such a degree of irritation in the throat that it did not disappear for many hours. Snow‡ found it to be a powerful agent, but deems it unsafe.

Although not much in the way of recommendation can be said for this preparation from the results of Simpson's and Snow's investigations, yet if we are to judge from those of Nunnelly it must be certain that in so far as its anæsthetic properties are concerned nothing more could be desired; and, indeed, the only objections urged by the two former investigators are its irritancy and its dangerousness. That Simpson laid entirely too much stress on the first of these objections must be inferred, because Nunnelly found it very pleasant to inhale; and so far as my personal acquaintance with the drug is concerned, both in regard to its administration to others as well as personally, it is certain that, while it does possess irritant properties, and does cause distress when first inhaled, the distress is certainly nothing like as severe as we are led to infer, nor is it much, if any, worse than that caused by the inhalation of ether; and as regards the dangerousness of the ethylene, a difference in opinion as to the degree of its dangerousness is also apparent. Still, it will be admitted that the weight of the evidence in its favor or disfavor rests with the assertion of Nunnelly, who made the most elaborate and detailed study, and, with such a weight of recommendation, it

* Transactions of the Provincial Medical and Surgical Association, xvii., 1849, p. 208.

† Edinburgh Medical Journal, viii., 1848, p. 740.

‡ Anæsthetics.

is apparent that its reintroduction to the profession is but a matter of time. It therefore seems that the present is a fitting time for the reconsideration of this compound, and for a detailed study of its properties as an anæsthetic agent, because we find the confidence in chloroform so universally shaken, the slowness, uncertainty, and many other practical disadvantages of ether so keenly felt, and that the anæsthetics recently introduced, and which were oftentimes lauded to the highest tension, have miserably failed to fulfil the promises made for them, and have even added their victims to the already ghastly anæsthetic holocaust. Hence the profession is eagerly searching for a compound which will prove to be as safe as ether and to possess all the advantages of chloroform; and, while such a stimulus exists for research and experimentation with this class of compounds, we must expect, even at this time, when the physiological laboratories of our institutions of medical learning are open for original research, and scarcely any investigator can plead an absence of facilities for vivisection, to find those who are so utterly reckless as to imperil the lives of their patients by experimenting on them before a proper physiological study has been made on the lower animals and the anæsthetic satisfactorily proven to be safe. How it is that these workers of death presume to be invested with the moral and legal right to unnecessarily jeopardize the lives of their patients is inexplicable.

From this it will be understood that the object of the writer in the preparation of this paper was to determine by an experimental investigation on the lower animals as to whether or not this anæsthetic especially, which appears so promising, is a safe one to use on the human being, and if it does possess any decidedly dangerous properties to point them out, so that if necessity or preference should ever call for its use we will be forearmed by being forewarned, and thus, anticipating certain dangerous results, can meet them promptly and efficiently, and, when it is considered that the degree of danger of any anæsthetic lies practically in its effects on the circulation, the amount of labor necessary to satisfactorily determine this point is not so formidable as it would at first appear. All anæsthetics certainly do depress the sensory nerves or centres, and especially so the cerebral centres. It is therefore obvious that we cannot hope for a preparation of this class which will not have a tendency to cause death by overwhelming certain vital portions of the nervous system and thus secondarily causing asphyxia or shock; yet the warning of asphyxia is generally so apparent that a fatal result can be avoided. But, on the other hand, where we have a compound which exerts an independent depressant action on the heart besides, we have a double danger to deal with; and that the large majority of deaths following the use of chloroform bichloride of methylene were due either to a paralysis of the heart alone or to secondary results because of such a depression, by which the already depressed nervous centres are further depressed or paralyzed on account of an inefficient supply of blood, must be apparent; and, while it is practically out of the question to even hope for an anæsthetic which will not cause death by paralyzing the nervous centres and thus causing shock or asphyxia, our one hope still lies in the effort of avoiding those preparations which decidedly depress the heart and which past experience has taught to be invariably dangerous, and of obtaining a compound devoid of this dangerous quality.

In the present investigation three modes of giving the ethylene bichloride were employed: 1st, by inhalation by means of a Woulfe bottle, by which method the air which the animal inhaled was compelled to pass through the bottle having in the bottom either the ethylene alone or numerous pieces of sponge saturated with it, the tube for the entrance of the air running almost to the bottom of the bottle, and the exit-tube being very short and merely extending to the bottom of the cork, so that the air which the animal breathed was always more or less saturated with the ether; 2d, by inhalation from a muslin cone held closely over the tracheal tube or nostrils; 3d, by intravenous injection.

General Action.—In normal animals, and when administered by the use of the usual muslin or linen cone, there are, as with most anæsthetics, three distinct stages,—excitant, anæsthesia, and profound narcosis. Here we have the struggles, general symptoms of intoxication, blunted sensibility and consciousness, a quickened pulse and accelerated respirations. Consciousness, sensibility, volun-

tary motion, and reflex action become rapidly annulled; the animal lies perfectly relaxed, and is thoroughly anæsthetized. If the inhalation is persisted in, profound narcosis rapidly supervenes, the pulse and respirations fail, and death ensues from a failure of the latter. The pupils may at first be dilated, but are afterwards contracted, and the further the anæsthetization is pushed the more fully they become so, unless it be in the last of the profound narcosis stages, when, preceding death, they have been observed occasionally to become dilated. Sensibility is invariably lost before motion, and I have almost unexceptionally seen muscular movements occur—not infrequently like clonic convulsions—after the complete abolition of ocular reflexes. It also appeared that the central functions were more seriously affected before other parts of the system.

Early in my experiments I learned that in order to know whether an animal was completely anæsthetized it was not necessary to consult the conjunctiva, but merely to watch the respirations, for just so soon as they became very frequent the animal was either anæsthetized or so near and rapidly approaching that condition that the inhaler could be removed and the operation proceeded with. If after the second stage is very pronounced the administration of the ethylene be continued, *the animal invariably dies from a failure of the respiration, and never in a single instance could I induce death by a stoppage of the heart by the inhalation of the vapor, no matter how concentrated the vapor was.*

The dose required to produce anæsthesia was about the same as chloroform, for the difference was so slight as to be unnoticeable.

(To be continued.)

POINTS IN PRACTICE BEARING UPON THE RELATIONSHIP OF TRUE OR MEMBRANOUS CROUP AND DIPHTHERIA.

BY JOHN J. BLACK, M.D.,

New Castle, Delaware.

COMPARATIVELY recent, yet growing wider from day to day, is the discussion in regard to the pathological identity of true or membranous croup and diphtheria; and the point to be decided by the medical profession is, Are ey pathologically one and the same affection, or are they, as heretofore generally supposed, different in their nature?

The distinctive name croup probably primarily referred to the peculiar changes of the voice in certain trains of laryngeal symptoms, and at the present time by the profession the word may be generally understood as referring to a genus of disease of which the various species, as spasmodic croup, catarrhal croup or catarrhal laryngitis, true or membranous croup, diphtheritic croup, or laryngo-tracheal diphtheria, etc., make up the aggregate.

Presuming that any practical results of experience bearing upon the discussion of this subject may prove of more or less interest to the profession at large, I am impelled to give a statement of the following circumstances surrounding cases to the point occurring in my own practice, without any particular note or comment:

On Friday, October 8, 1880, I was called to see two children (females), aged respectively 11 and 5 years, suffering, the messenger said, from croup.

I responded promptly, and was told by the mother that they had been under the care of an irregular practitioner, who had given up the cases as hopeless, and she requested me to take charge, hoping I might at least mitigate their terrible and incessant sufferings. Upon inquiry, I found that the oldest child was in the sixth day of the disease, and the youngest in the third day. The oldest appeared almost moribund, and was nearly unconscious from the accumulation of carbonic acid in the blood, and her great suffering appeared to be drawing to a close. The youngest was beginning to suffer the horrors of laryngeal obstruction, but yet appeared to retain full strength and activity. I examined these cases thoroughly, and could find no traces of diphtheritic membrane in its usual haunts, nor did they in any way present the well-known asthenic symptoms of well-marked diphtheria,—symptoms which had unfortunately been presented to me too often in the past year to mistake. Barring the laryngeal symptoms, the youngest child was robust and strong, and, from what I could learn of the elder, she had been equally so until a short time before I saw her. For the elder child I ordered milk and brandy to be pushed to the utmost verge of possibility, doubting that any effectual quantity could be gotten into her, and for the

younger such remedies as appeared to me best, not omitting the sheet-anchors in these affections,—food and stimulation, and vaporizations locally. Upon visiting the cases early the next morning, I was surprised to find the older child not only living, but really, under the circumstances, much improved by the treatment instituted, and for the first time I commenced to entertain an idea of helping her. Her pulse had changed for the better,—for, indeed, before she had been almost, if not quite, pulseless,—her temperature inclined to decrease, and she was entirely conscious, and, of course, with this state of affairs the effects of laryngeal stenosis were more marked.

There was no albumen in the urine in either of these cases by Heller's test, but mixed urates existed in great excess, and illustrated, better than in any cases I had ever met, the necessity of guarding against the mistake of assuming them to be albumen, when the more insoluble of the urates are thrown down after adding the acid. Heat applied here dissipated the ring entirely. In examining the urine in diphtheritic cases I would insist upon great care on this point, as the excess of urates in the urine so often present may readily be mistaken for albumen. If cases which are generally recognized as diphtheria and are generally or always asthenic in their nature, and cases which are generally recognized as membranous croup and are generally or always sthenic in their nature, should be proved to be one and the same disease, arising from one common cause, the presence of albumen in the urine in the one set of cases occurring far more frequently than in the other may be caused by the greater excess of parasites in the blood in the former or asthenic cases, nephritis, as has been suggested, being set up by the passage of the bacteria of the blood through the kidneys.

The peculiar surroundings of these cases, professionally considered, induced me to take an especial interest in them, and I requested my friends Drs. D. F. Woods, of Philadelphia, and David Stewart, Jr., of New Castle, to see the cases with me. Dr. Stewart had already pronounced the cases membranous croup, as so understood by the profession at large; and when this diagnosis was confirmed in every way, after a very careful examination, by a diagnostician so well and generally known to the profession as Dr. Woods, I felt abundantly strengthened in my first impressions.

The younger child was now beginning to suffer all the horrors of laryngeal obstruction, and the elder offered but one hope, and that only as to euthanasia apparently: so, having with some difficulty obtained the necessary consent of the family, and with the advice and full approbation of Drs. Woods and Stewart, and aided by their very valuable assistance and advice, I performed tracheotomy, first on the oldest child, and next on the youngest, introducing the tubes in each case immediately after the operation, the immediate results of which in both cases were all that any surgeon could desire. The oldest child died on the third day from exhaustion, her life prolonged three days at least by the operation. The younger child died on the sixth day. Acute inflammatory œdema of the tissues of the neck supervened on the third day, which tended greatly to prevent a favorable issue. There was no tendency to the formation of membrane on the cut surfaces in either case. One great balm to the unsuccessful termination was that euthanasia was accomplished in both cases.

In October, 1878, from the effects of the great storm of that month, the lowlands adjacent to this city were overflowed from the breaking of the levee guarding these lowlands from the encroachments of the Delaware River. This levee was repaired and all of the water shut off by June, 1879, following. In the month of August, 1879, a serious epidemic of diphtheria broke out in the city of New Castle, and raged with great violence until March, 1880, when it ceased, only a few sporadic cases having occurred since. With this exception, no place rapidly extending as this city is could have been more free from epidemic or contagious diseases. The house in which the cases whose history I have narrated occurred is situated on Vine Street, which situation compares favorably as to healthfulness with other parts of the city. The front room of the house had been used as a meat-market in 1879, and the man occupying it during the diphtheritic epidemic of that year lost two children by that disease. I did not attend the cases myself, but from what I could learn they died from laryngeal obstruction.

The meat-market remained in the house until March, 1880, when the mother of

the children whose cases I have related moved in, and the premises were thoroughly cleansed and purified. This woman kept a trimming-store, and the surroundings here, as to health and cleanliness, were apparently good, except the cellar, which needed and received prompt attention. Two days before the youngest of these little girls died, an older sister in the same house developed a well-marked case of true diphtheria, involving the throat generally. The case responded to treatment, and fortunately no laryngeal symptoms were developed. In this case there was a small amount of albumen in the urine. This case showed the presence of the diphtheritic poison in the premises, and pointed out a cause for the laryngeal cases which ended so disastrously and gave to me a clear illustration of the coexistence of well-marked cases of membranous croup and diphtheria, and, I assure the reader, have caused me to pause and consider, as I have never considered before, whether or not true croup and diphtheria have not one and the same cause and are not one and the same disease.

April 21, 1881.

AN IMPROVED DIACHYLON OINTMENT.

BY LOUIS A. DUHRING, M.D.,

Professor of Skin Diseases in the Hospital of the University of Pennsylvania.

PERMIT me to call attention to an improved diachylon ointment. According to my experience, very few pharmacists are able to furnish a satisfactory ointment made after the several published formulæ. In the second edition of my Treatise on Diseases of the Skin, page 186, I give the original formula of Prof. Hebra, together with full and explicit directions for its manufacture, derived from personal experience, and, as there stated, a valuable ointment may with care thus be obtained. In the hands, however, of pharmacists unacquainted with the details of its preparation, the bare formula is of little value, as the result will usually prove.

Recently Mr. M. Eisner, manager of the Cramer & Small Pharmacy, in Race Street below Fourth Street, has on several occasions furnished me with an ointment of such uniformly superior quality that I have been led to investigate his method of manufacture.

He informs me that he has always experienced much difficulty in preparing and also in keeping diachylon ointment made according to Hebra's directions. After considerable experimenting, he has arrived at the following formula, which furnishes an ointment containing a definite amount of oxide of lead, which, with the use of litharge, cannot be estimated. One part of freshly-precipitated (from acetate of lead) pure white hydro-oxide of lead is rubbed with two parts of water, and mixed well with six parts of the best Lucca olive oil. It should be stirred for about two hours over a hot-water bath near the boiling-point, and cooled with constant stirring until the proper consistence is obtained. While cooling, a drachm of oil of lavender to the half-pound of ointment is added.

This ointment, according to Mr. Eisner, contains the oleo-stearate of lead, has a neutral reaction, and can be kept in good condition for some time. It is a smooth, whitish, elegant preparation, and is altogether more desirable than that made according to the original formula.

TRANSLATIONS.

FATTY EMBOLISM. — C. Sepp (*Cbl. f. Chir.*, 1881, p. 135; from *Inaug. Diss.*, *Leyden*, 1880) comes to the conclusion that the existence of fatty emboli in living warm-blooded animals has not been proved. The fact that fat-collections have been observed after death in the capillaries does not prove that they occur during life. Grohé thought that the disturbance of the circulation during the death-agony might drive together the finest particles of fat, and give rise to the emboli found after death. Though Sepp admits that the difficulty of emulsifying fat with blood may lead to the collection of distinct oil-globules smaller than the capillaries, and thus support Grohé's views, yet he believes that the occurrence of fatty emboli in living animals is doubtful, for the following reasons.

Emboli can only form when the blood-pressure is insufficient to overcome the resistance met with by the fat-globules in the capillaries. This resistance is chiefly dependent upon the cohesiveness of the fat-corpuscles, which is diminished when the temperature increases. If, then, fatty emboli are found in cold-blooded animals,

that is no reason why they should be found in warm-blooded ones, where not only is the temperature higher, but the blood-pressure greater. The occurrence of fatty emboli after death proves nothing, since these occur during the death-struggle, when the blood-pressure is diminished.

Sepp experimented on rabbits, injecting oil into the lingual artery, and then examining the retinal capillaries, but failed to find any emboli. Müller, in 1860, reported a case where a fatty embolus was found in the retinal vein of a patient suffering from renal disease; but, as this statement is unsupported by similar cases, it must be concluded that the occurrence of fatty emboli in warm-blooded animals is very doubtful.

In addition to the above-discussed question, Sepp reports that he has succeeded, by making post-mortem injections into the pleural cavity, in producing emboli. He finds, also, that vaseline is very rapidly absorbed and excreted; finally, that, almost without exception, the temperature of the animal experimented upon became lowered immediately after the operation.

In conclusion, Sepp made the following experiments in the absorption of fat in inflammation: 1. The hind leg of a dog was rendered bloodless by Esmarch's bandage, and was then dipped for a few moments in water of about 70° C. Five days later, the dog, having showed oil in his urine, was killed by strangulation. Examination showed diffuse fatty emboli in the lungs and kidneys. 2. A rabbit had its hind leg merely enveloped in an elastic bandage. Twenty-four hours later, he was killed, when fatty emboli were found in the lungs. 3. The same experiment was tried, only the animal was killed with carbonic oxide gas. Several fatty emboli were found in the lungs and kidneys.

The Question of Mobilization or Immobilization of Diseased Articulations.—Verneuil (*Cbl. f. Chir.*, No. 10, 1881; from *Bull. de la Société de Chirurgie*) states four circumstances under which, usually, artificial mobilization of a joint is sought: 1, to overcome an existent anchylosis; 2, to improve an imperfect or inconvenient position; 3, to increase the mobility of a joint as yet not completely anchylosed; 4, to prevent anchylosis.

In order to establish his position (favorable to immobilization), in opposition to the prevailing custom, Verneuil begins by asserting that no single case exists in science which goes to prove that a long-continued immobilization of a *sound* joint can cause anchylosis. On the other hand, numerous cases are on record where healthy joints have rapidly gained their normal mobility a very short time after being released from long-continued immobilization. The conclusion is that healthy joints do not become anchylosed even after long-continued rest. How is it with diseased joints?

Granted we desire to give rise to anchylosis, what do we do? Fix the joint? Not at all. We endeavor to excite purulent inflammation of the articular cartilages. An "anchylophobist" must now immobilize the joint, to prevent anchylosis. But experience has shown that immobilization is the surest way to prevent inflammation, and the danger of anchylosis increases with the intensity and duration of the inflammation. Thus, anchylosis is here best prevented by keeping the joint quiet. Nature itself shows this; for the neighboring muscles are found contracted, or at least, as Verneuil expresses it, in a state of extreme vigilance. What justifies us, therefore, in blaming the immobilization in this case, and not much rather the joint-affection, in case anchylosis occurs? Conclusion: diseased joints do not become anchylotic by immobilization, but as a result of the peculiar form of inflammation and its deleterious effects.

Verneuil goes on to show that anchylosis is a much rarer result in the various joint-affections than is generally supposed, and that, on the contrary, too great anxiety and fear of anchylosis has led, especially in fractures near joints, to premature attempts at mobilization, with the result of doing more harm than good.

When anchylosis does occur, following long-continued immobilization, the cause is to be found either in the severity (or variety) of the inflammation (blennorrhagic arthritis, inflammation of the joint in osteo-myelitis,—occurring in the neighborhood of the epiphyses,—arthritis of pregnancy) or the position of the fractured fragments hindering the normal function (as in fractures into joints). In other cases, although stiffness may last for a while, yet in the course of time nature will restore the joint to its normal condition.

Acute Symptoms in Exophthalmic Goitre.—Dr. M. P. Merkelen (*La France Médicale*, 1881, p. 338) gives the case of a

woman who had been subject to exophthalmic goitre for six years, the disease following the usual type to within a month of her admission to the hospital, at which time she was attacked by acute symptoms following exposure to cold, for which she sought relief. On examination, the patient's face was congested; the thyroid was enlarged, especially in the left lobe, and throbbed violently, but with intermissions of five seconds, in accord with the pulse and heart. Exophthalmus was marked, without troubles of vision, however; the pupils were constantly dilated, and reacted imperfectly to the influence of light. There were also cardiac palpitations of such violence as to raise the left side of the thorax at each systole. No morbid sound on auscultation, but numerous irregularities. There occurred, in addition, epileptiform attacks in the face and limbs, chiefly of the right side, sometimes incomplete, sometimes abortive, sometimes complete, but without the cry or coma. When the attacks interrupted the patient in the middle of conversation, she took up the thread again after the attack just where it had been dropped. These convulsive attacks appeared to occur just after the prolonged intermissions of the heart and pulse, which sometimes, as has been said, lasted five seconds. They occurred every minute or every two minutes during the examination. Finally, general hyperæsthesia over the abdomen, with gurgling and the *tache méningitique*, was observed. The bowels were constipated, the urine albuminous. The patient was placed upon digitalis and bromide of potassium, with an aperient.

Within a few days marked amelioration in all the symptoms took place. The pulse fell to 90, and the patient appeared to be getting better, when a new group of symptoms manifested themselves,—an eruption of erythematous macules of the thyroid region and lower part of the face, with pain on touching the skin. The heart was decidedly dilated, and throbbed violently. There was marked hyperæsthesia over the abdomen and thighs. In the following days pains in the neck, disturbance of vision, and diminution of albumen in the urine were remarked. The pulse sank to 54–60. The patient slept little, and suffered from repeated epileptic attacks; the temperature rose to 104°, the tongue became dry, and there was diarrhœa and incontinence of urine, painful congestion of the liver, with jaundice, subcrepitant râles at the base of the left lung, with abundant expectoration. Gradually from this time the patient began to mend, and recovered her normal condition, and at the end of a week was able to leave the hospital. The treatment was essentially the same throughout, only that inunctions with ung. hydrarg. and dry-cupping were employed over the chest.

In remarking upon the peculiarities of this case, Dr. Merkelen suggests hyperæmia and irritation of the bulb as the probable cause of the convulsive attacks: this hyperæmia and irritation translated to the ganglia of origin of the pneumogastrics showed itself by the irregularities in the heart's action. The congestive troubles showing themselves in the albuminuria, the diarrhœa, the icterus, may all have been the result of bulbar influence. The happy effect of the treatment was manifest. Digitalis, indicated as a tonic to the vascular system, and as a regulator for the circulation, acted most effectively in arresting the irregular movements of the heart which were so threatening.

Multiplex Fibroma of the Lung.—Rindfleisch (*Virchow's Archiv*, Bd. lxxxi., 1880, p. 517) gives the case of a boy of 12 years who died in the hospital of chronic catarrhal trouble of the respiratory tract, without an exact diagnosis of his disease during life. One symptom in particular was very curious and doubtful, namely, the secretion and rejection of a considerable quantity of a clear yellow fluid which was mixed with the sputum. The only way of accounting for this morbid, lymph-like discharge was by the supposition of a lymphorrhœa pulmonum. The examination post mortem explained the lymphorrhœa, but in a very unexpected and peculiar way. The lungs were found bound to the costal pleura throughout their entire surface by leaves or layers of various thickness and tenacity, not connecting opposite portions of the pulmonic and costal surfaces by bands, as is usual, but like a sort of intermediate skin. On cutting open the lungs themselves, enlargement of the mediastinal glands was found, and in addition to this a number of small nodular masses, resembling the cheesy deposits of tuberculosis, were found scattered through the lung-tissue. On section, however, these were found to be true fibrous nodules, like those of fibroma molluscum of the skin,

having a cavity in the centre and numerous lymphatic vessels connected with the air-passages in such a way as to account for the peculiar fluid coughed up by the patient.

POTT'S DISEASE OF THE SPINE OF SYPHILITIC ORIGIN.—Prof. Alfred Fournier (*Annales de Dermatologie et de Syphiligraphie*, t. ii., No. 1, 1881, p. 19) gives a case of this affection which is, we believe, unique in the annals of medicine. For, although such cases have probably come under the notice of physicians, yet their origin has not been traced to a syphilitic source. Prof. Fournier's patient was a man, 56 years of age, a fine, robust figure, who declared he had never suffered a day's sickness in his life, but who showed signs of enfeebled health. He was emaciated, and so weak that he could scarcely walk, and he had quite lost his appetite. He complained also of pain in the lumbar region ("the kidneys") of a constant, dull character, but with occasional exacerbations of a few moments' duration, the pain then extending to the lower limbs.

Although this was all of which the patient complained, yet on examination various lesions, evidently of a syphilitic nature, were discovered. Thus, he had a syphilitic sarcocele, ten subcutaneous or muscular tumors, which from their appearance and history could only be gummatous, a gummatous ulcer of the great toe, a pigment spot upon the thigh, marking the seat of a recently healed ulcer, and marked atrophy of the muscles of the thigh.

The diagnosis of syphilis having been made, the appropriate treatment was directed, under the use of which the patient's external symptoms all improved; but his general condition grew worse from day to day. Later new symptoms showed themselves,—œdema of the lower limbs, hepatic pains, meteorism, ascites, pleuritic effusions, etc. His appetite failed, his strength left him, he became extremely emaciated, he fell into a condition of cachexia, and finally succumbed.

The post-mortem examination showed, in addition to the external lesions mentioned above, granular cirrhosis of the liver, with extreme peri-hepatitis enveloping the whole organ in a sort of husk of tough false membrane; characteristic cicatrices of the surface of the kidney; a gummatous deposit enveloping the fourth left lumbar nerve at its exit from the plexus, with degeneration of the nerve itself. In addition, there were multiple and considerable lesions of Pott's disease, affecting the lumbar spine chiefly in the third, fourth, and fifth vertebræ; denudations of the bones; thickening or destruction of the periosteal or ligamentous membranes; lesions of osteitis condensans, with purulent and caseous infiltration; almost complete destruction of one intervertebral fibro-cartilage; a vast cavity in the centre of the lumbar vertebral column; abscess by congestion in the thickness of the psoas on both sides, etc.

Of course, the most important question in this case was regarding the etiology of the Pott's disease. Was it a simple coincidence, a Pott's disease of the common variety superimposed upon a syphilitic constitution or concurrent with syphilitic disease, or was the Pott's disease itself of syphilitic origin?

Prof. Fournier decides in favor of the latter view: first, on account of the patient's advanced age, Pott's disease in the tubercular form being of extremely rare occurrence after youth; second, on account of the patient's previous robust health, the history of which, extending uninterruptedly through a lifetime, pointed away from the known antecedents of ordinary Pott's disease and in favor of a late diathetic infection of the system; third, the pathological concomitant, the various other unmistakably syphilitic lesions found, pointed to syphilis as a cause of the spinal affection; fourth, the appearance of the vertebral lesions themselves was characteristic,—their sharply defined outline, their clear yellow color, characteristic of the caseous gumma, and the regular hemi-circled configuration of the lesions composing the bony changes on the anterior aspect of a lumbar vertebra. Finally, at the origin of one of the conjugate ligaments of the lumbar column there was a tumor arising from the periosteum, which was recognized as a gumma, and the gummatous envelope of the nerves above mentioned showed signs of caseous degeneration in parts.

Prof. Fournier gives very full and careful notes of this important case, and also a report of the histological examination of the tumors. An excellent chromo-lithograph of a section of the diseased vertebræ accompanies the paper.

Affections of the Eye and Ear in Recurrent Fever.—The epidemic of recurrent fever which recently affected Königsberg has afforded Dr. Luchau (*Virchow's Archiv*, Bd. lxxxii. p. 18) the opportunity of observing and noting the occurrence of complications in the eye and ear. Out of one hundred cases of recurrent fever under Dr. Luchau's observation, thirteen cases of ear-disease were observed, nearly all occurring about the beginning of the fever, and all involving the middle ear, and usually inflammatory. The treatment recommended is as follows. When no suppuration has taken place, local phlebotomy is usually sufficient to allay the pain. When this is not enough, morphia may occasionally be employed. When suppuration has taken place, paracentesis of the membrana tympani is to be practised without delay. This little operation is painful for the moment, but soon gives great relief. The after-treatment consists in washing out the pus with a warm one per cent. solution of carbolic acid in water. A glass syringe should be used only in case of necessity: it does not give a strong enough jet to wash out thick pus. The cleansing of the tympanic cavity is best to be accomplished by Valsalva's method.

Of eye-affections Luchau observed six in his one hundred and eighty cases of recurrent fever. In three of these one-sided iritis occurred; in one case hypopion also supervened. All three cases were cured without evil after-effects. In two cases the eye-trouble took the form of neuritis optica. In another case inflammation of the optic nerve was observed in a second attack of fever. It is a curious fact that towards the end of the epidemic the number of the eye- and ear-troubles diminished in proportion to the diminution in the number of cases of recurrent fever.

Observations on the Occurrence of Bilharzia Hæmatobia.—Dr. John Wortabet, the well-known medical missionary, writing to Prof. Virchow (*Virchow's Archiv*, Bd. lxxxi. p. 578), says he has had lately under his care two cases presenting the following symptoms. 1. A small quantity of blood, from one to a few drops, voided after micturition, with a little strangury,—the constitution a little weakened, but otherwise not much affected. 2. The ova are always found in the clots; their form is more regular than is generally given in books; the embryo may be distinctly seen within the shell,—sometimes moving. 3. A free embryo may be occasionally seen with its cilia in action. From fresh specimens he has often succeeded in gently crushing the egg by pressing the glasses and thus liberating the embryo in a living state. 4. He once opened a vein in the arm, but found no ova in the blood.

Prof. Virchow, commenting on this note, says that Dr. Wortabet sent him at the same time some specimens of blood mingled with urine. Although extreme decomposition, with the formation of bacteria, had taken place, numerous ova of the bilharzia (distoma hæmatobium, v. Sieb) could be seen, with several embryos.

Physiological and Therapeutic Influence of Bromide of Ethyl in Epilepsy and Hysteria.—Drs. Bourneville and D'Olier (*Le Progrès Méd.*, 1881, p. 228) have made a series of investigations on this subject, of which they give a résumé in their paper. Their conclusions are as follows. 1. Dilatation of the pupil at the beginning of the inhalation is not constant. 2. Complete muscular relaxation is exceptional. 3. Anæsthesia is produced in varied degrees, dependent upon the idiosyncrasy of the patient. 4. The temperature, the secretions, and the general condition of the patient do not appear to undergo any modification. 5. The pulse and respiration are slightly accelerated. 6. More or less marked trembling of the limbs may be produced during inhalation, but this does not persist any longer. 7. Hysterical attacks are generally easily arrested by bromide of ethyl. 8. Attacks of epilepsy may sometimes be arrested by giving the medicine from the tonic period; most frequently inhalation is of no benefit. 9. In epilepsy the regular use of bromide of ethyl, administered in daily inhalations during a period of one or two months, diminishes very notably the frequency of the attacks.

University of Maryland.—Dr. I. Edmondson Atkinson has been elected Professor of Pathology in this school. He still retains the Clinical Professorship of Dermatology, previously held by him. Prof. Louis McLane Tiffany has been elected Professor of Surgery in the University of Maryland, Baltimore, *vice* Christopher Johnston, made Emeritus Professor.—*New York Med. Record.*

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, MAY 7, 1881.

EDITORIAL.

THE UNITED STATES NAVAL MEDICAL SERVICE.

IT is probable that there is no medical government service in the world the requirements for admission to which are more severe than is the ordeal through which the medical candidate for naval honors must pass in this country. We are credibly informed that twelve aspirants have been before the examining board now in session without one having succeeded. So far as a good deal of experience teaches us, we should say that the standard is even higher for the navy than it is for the army. Most of our readers will no doubt agree with us, however, that when once in the navy a physician almost always disappears entirely from public sight, whereas in the army not rarely he rises to a first rank among scientists. The doings of the medical staff of the United States army are the talk of the world; the acts of the medical staff of the navy, what *are* they? A few reports lying upon book-shelves,—pitiful pamphlets alongside the invaluable tomes that have come from the Surgeon-General's Office at Washington.

Not only is this true of medical works proper, but also of scientific publications other than medical. Where is the Dr. Coues of the navy? Yet the abundant leisure, the months of floating in the tropics, the wide travel, afford both stimulant and opportunity for natural history research.

There must be some especial reason for these things. Is it that salt air is a veritable lotus-flower, soothing into an irresistible indolence him who breathes its miasm? Or is it because there is something faulty in the organization of the service itself? It may not be for a civilian to speak lightly of, or even to attempt to understand, the intricacies of military discipline, but is it not possible that general principles and common sense are applicable to men in uniform and to governmental organizations as well as to men in plain clothes and to corporate or private undertakings? How long would any business enterprise thrive whose management was changed every year or two?

The Surgeon-General of the army holds his position for years securely; the chief of the naval bureau clings most insecurely to his place for four years, or more frequently drops from his perch in a year or two, as helpless as a three-toed sloth when a rifle-ball or a storm-wind cuts the branch to which he has been attached. Unfortunately, the position as the medical chief of the navy gives to its occupant a special rank, which when once attained is forever held. The appointment nominally is for four years; but, in fact, so soon as a man is fairly in he begins to think, "I cannot stay here long enough to personally impress the service. My friend Jones wishes to be admiral, commodore, commandant [or whatever the rank is]. I'll get out, and let him in." Or friend Jones says to himself, "My friend Smith is now in; he can't get anything more by staying in, and I can get a good deal by getting him out: so out he shall come at the end of his term, if not before." Jones is aided by Jones second, Jones third, and so on to the fourth or fifth generation, who see Mecca looming in the distance, and have hopes. No one thinks of the service, much less of the profession, and in the heat of personal struggle science and the scientist are lost in the limbo of the uncared-for.

At present the chief of the naval bureau is a man well known to the profession by his writings, though we doubt if any of

our readers know that he is chief of the naval bureau. Surgeon Wales, of course, has scientific sympathies, and if he were permanently located in his place, we are convinced, would bring the service into repute by affording encouragement and facilities for work. Jones would like him out; but cannot the profession appeal to Jones to sink immediate personal interest for the general good, and at least wait his turn? The recent decision of the United States Supreme Court in regard to military affairs may be law, but seems to us extremely unfortunate for the government, as opening a door for the entrance into the military service of that system which has debauched the civil service of the country. It has been hitherto held that no commissioned officer could be discharged from the service save only through a court-martial or by act of Congress. A certain naval chaplain became crazy and sent in his resignation. It was accepted, and a successor nominated, and confirmed by the Senate. By and by chaplain No. 1 recovered his reason, and was astonished to find himself out of the service. He proved to the court that he was insane when his resignation was written, and that therefore he had not legally resigned, but was still entitled to rank and emoluments. The court, however, decided that the appointing power under the Constitution carries the dismissing power, and that if the President nominate a person for a military or civil position, and the Senate confirm, the joint act removes by presumption the previous holder of the office. The poor chaplain found himself, therefore, hopelessly shivering in the cold blasts of official and permanent dismissal. It is readily seen that under this decision the chief of the naval medical bureau has his hands full in watching the President, the Senate, and his own subordinates. Is it not possible for the American Medical Association to represent this matter by committee to Congress in such a way as shall lead to good?

THE American Laryngological Association will hold its annual meeting in the hall of the College of Physicians, May 9, 10, and 11. The profession is cordially invited to attend.

CORRESPONDENCE.

LONDON LETTER.

IN my letter two months back I made some remarks about the Royal College of Physicians of London, pointing out that, though it guaranteed the conduct of its Fellows and members, it had failed to exercise any inhibitory control over Sir William Gull when disposed to take his own way. I said some things which several may have thought rather strong, but I have been told that they were not sufficiently vigorous for the occasion. Just after mailing the letter the following sentence occurred in the *Lancet*: "Unhappily, there is not the remotest probability of the dignified but lethargic corporation in Pall-Mall being aroused to healthy activity by example or remonstrance of any kind." This at least is vigorous enough to satisfy any critic. In the previous letter it was said the College was coming to evil days. It seems that this is a fact about which no mistake is possible.

Lord Beaconsfield, as is generally known, is an Oriental—a Hebrew, indeed—who has risen to place and honor, whose career has been meteoric, and who is apparently disappearing with a great display of fireworks. For some years past Lord Beaconsfield has reposed his professional confidence in one Dr. Kidd, a man of great repute in the city, a man in most extensive practice, but imbued with homœopathic proclivities. Consequently, when the earl's illness became very grave a consultation was deemed desirable. There was apparently no other person of homœopathic faith whose opinion was worth the taking, so it was left for the earl and his friends to call in one of the recognized leaders of the profession. The first choice fell upon Sir William Jenner, who met the request with a flat negative, like the straightforward man he is and always has been, holding the honor of the profession to be his first consideration. Then Dr. Quain was sought. At first he objected, but ultimately consented. Whether he knew or did not know that Sir William Jenner had been asked and had positively declined does not appear. It was an oversight if he was not told; but it may be well to give him the benefit of the doubt. "Was Lord Beaconsfield to die without assistance?" Well, seeing that his lordship knew or ought to have known that in placing himself under a homœopathic practitioner he was deliber-

ately cutting himself off from the advantage of consulting regular practitioners, he was only meeting the fate he had courted; he had made his choice; it was his own concern, and nobody else's. Probably he calculated upon a weak compliance, treating the medical profession with that contempt which is accorded to it by persons in his present position in life. Nothing could prove more incontestably what I have before written about the social position of the profession than this present story. It seems to have been taken as a matter of course that the profession would bow the knee to Baal when asked to do so.

Dr. Quain first said he "could not meet a homœopath under any circumstances." He was assured that the noble earl was treated not homœopathically, but "according to the regular practice of allopathy." Under this solvent Dr. Quain's scruples disappeared swiftly. The *Lancet* spoke out with no uncertain sound. It said, "Wide-spread astonishment and unfeigned regret have been occasioned by the announcement that Dr. Quain, an eminent physician of the orthodox school of scientific medicine, has been called in consultation at the bedside of the Earl of Beaconsfield, and consented to meet and act with Dr. Kidd, a reputed homœopath. The explanation offered is that Dr. Kidd had not been treating the noble lord on homœopathic principles, but 'according to the regular practice of allopathy,' whatever that may mean: and Dr. Quain, though he at first declined, having satisfied himself on this point and taken the advice of 'leading members' of the profession, was able to lay aside his scruples and even to persuade himself that he 'would not under the circumstances be justified in persisting in his refusal.' The question which first suggests itself, on receiving this account of the matter, will probably be, *Who* are the 'leading members' of the profession upon whose counsel Dr. Quain acted? It is not a little remarkable that no recent scandal has occurred or mistake has been committed by any prominent member of the profession without a similar expression of opinion from some unknown or unrecognized 'authority' lending countenance and giving approval to the wrong done."

The *British Medical Journal* the next week supplies the desired information. The counsellors were Sir George Burrows, Bart., ex-President, and Sir James Risdon Bennett, then actual President, of the College. Such were the advisers in this case. Subsequently the opinions of Sir Thomas Watson and Sir James Paget were asked,—after the thing was done. But the first two were the accessories before the fact, on whose advice Dr. Quain resolved to act against a well-recognized rule. These, then, are "the most prudent and experienced Fellows" according to the *British Medical Journal*. Little can be said for their prudence here; and as to their "experience," the comment of the *Lancet* is most suggestive. It seems a pity Dr. Quain did not ask some Fellow with a little more "moral backbone" than these two titled Fellows. As regards Sir James Risdon Bennett, as the then actual President of the College, it would have been easy for him to decline to give or express any opinion,—a course the "prudence" of which is palpable; but perhaps his "experience" went in another direction. Certain it is that these two counsellors gave advice which the profession, as a body, resents. The matter was brought before an extraordinary meeting of the College on the 11th instant by Dr. John Charles Bucknill, whose manliness and integrity are so well known and so widely recognized. "The President, after intimating that there could be no discussion on the matter, requested Dr. Quain to reply to Dr. Bucknill's question." Certainly this was a judicial attitude to assume with a vengeance. Sir William Jenner felt his conduct to be impugned by Dr. Quain's explanatory remarks, and "rose to make a personal explanation, assuring the President, who ruled that the matter could not be further debated, that he was not about to discuss Dr. Quain's action, but merely wished to inform the College that he had himself been asked, previously to Dr. Quain, to see Lord Beaconsfield in consultation, and that he had distinctly refused to do so; adding that if Dr. Quain's conduct met with the approval of the College his own deserved censure." This was manly and outspoken, and has commanded the unreserved approval of the profession. The outgoing President might rule, if he liked, that there could be no debate at the council meeting; but he cannot stifle the expression of opinion by an outraged profession outside that council-chamber. Perhaps such expression of opinion has as little weight with him in this matter as the opinions expressed a little time ago about his knighthood apparently had with him. Oligarchies are superior to outside opinion so long as their day lasts. But this recent procedure will tend to bring down the tumbling edifice which had previously begun to totter. A ruling body which acts in defiance of public opinion ought to foresee that its existence —as an authority in matters of opinion—is simply at stake. But foresight is not what they have been remarkable for: indeed, the *Lancet's* comment involves more than the accusation of mere want of foresight.

The imbroglio is a pretty one, certainly. Granting that Dr. Quain felt that some odium might attach to him, since "he might, in the event of a fatal result, be looked upon as contributing to his lordship's death." Well, and, if so, what then? He would have been sustained by his professional brethren, and have rowed in the same boat as Sir William Jenner. That Dr. Quain yielded to a temptation too much for his powers of resistance is certain, and that he met in consultation again and again a

homœopath is only too obvious. Dr. Kidd writes, "He communicated with me as to how I was treating the case, and, upon receiving my assurance that it was not homœopathically, he without hesitation visited the patient, thus fulfilling the spirit of that 'boast of the medical profession, that in the hour of sickness it recognizes only humanity in need of succor.' In this way Dr. Quain and I did work together without being agreed, nor did either sacrifice his convictions to effect the co-operation." (*British Medical Journal*, April 16.) This is a most remarkable epistle. The "without hesitation" is a new light upon Dr. Quain's conduct; but the last sentence is beyond my comprehension altogether. They co-operated "without being agreed,"—certainly this is a novel kind of medical consultation,—yet neither sacrificed his convictions! The entanglement is superhuman: certainly we all will await the result with the greatest interest. So far it is a case of "the further in the deeper."

The profession is in a state of tension. The *Lancet* and the *British Medical Journal* are in direct antagonism in the matter. The latter says, "Dr. Quain immediately went to Sir George Burrows, on whose wisdom and profound sense of what was due to the profession he could rely, *and from whom he had always experienced great and uniform kindness*" (the italics are mine). When the editor resorts to "talk" like this, it is virtually admitting that his advocacy is handicapped heavily. He goes on to say of Sir William Jenner, "The reason which he assigns in the circumstances is not valid for the purpose, and not pertinent to the case." That this remark is certainly most "impertinent" none will for a moment doubt. Dr. Quain's conduct he holds "was alike accordant with professional ethics and public duty." No one will attach much importance to the views of the editor of the *British Medical Journal* in the matter of "professional ethics and public duty." And his attitude in this affair will still further widen the gulf already existing betwixt him and a large section of the members of the Association. His advocacy, such as it is, is about the most damaging matter for those whom he defends that could happen. "Save me from my friends!" indeed, may each exclaim. There is a wide-spread and rapidly extending circle who do not think Mr. Abraham Ernest Hart the fittest man possible to represent the Association as editor of its journal, and his views expressed in the present matter will not tend to reconcile them. The bulk of the profession feel that the law not to meet homœopaths in consultation has been violated in a conspicuous instance. They know how a certain section of the public will seize upon this precedent as an excuse for putting pressure on lesser men, of which they will not be slow to avail themselves. Let us suppose a case. Morland is a small town, where there is a most important local gentleman resident who reposes confidence in homœopathy and is attended by a homœopathic practitioner. His life is an important one in the locality in which he resides. He is "in a condition of such serious illness and great debility as to make it impossible that he could give any continuous account of his present or past illnesses, and that there was no other person available who could furnish the information but D——," and a local practitioner is called in. The value of the patient's life is to be made the gauge of professional conduct. Yes; but if this had taken place, the local practitioner having availed himself of such advice from neighboring medical brethren as was at his disposal, what would the editor of the *British Medical Journal* have done? In all probability he would have become the strictest stickler for professional honor and public duty, and have denounced that unlucky local humanitarian with all the stage thunder he could command. At least, if he did not so act, a good many of us would be very particularly surprised. All that was necessary was the assurance that the patient had not been treated homœopathically, and the matter was settled. Of course this precedent will be used readily in other cases, and the local man who will not bow the knee to Baal will have to suffer for his convictions. That is the long and the short of it. Persons can play at "homœopathy," and when a serious emergency arises call in the services of the orthodox members of the profession by a quibble, just as Lord Beaconsfield did. Where is the unity of the profession then? Of course we can make all allowances for Mr. Hart's regard for the interests of this distinguished representative of the Semitic race; but really the interests of Aryans must not altogether be lost sight of. Both are aliens in blood, and there are those who do not approve or unquestioningly believe in the rule of aliens. The whole matter will have to be thoroughly investigated, and the position of the profession towards homœopathy, especially when prominent members of society are involved, must be settled; the sooner the better. That Dr. Quain felt keenly that to leave Lord Beaconsfield unseen and to Dr. Kidd singlehanded was rather hard, is probable enough. But then, granting this, it is just how to act in emergencies that laws are specially enacted for the guidance of the individual. Some new enactment is called for after this case. And when a new regulation is made it is to be sincerely hoped that the "leading members, the most prudent and experienced of the profession," will see their way to abide by it, if only to keep other and less eminent members of the profession out of awkward predicaments, instead of "leading" them into sloughs. What the body or bulk of the Fellows thought on the matter is best testified by the election of President at their meeting. Sir William Jenner had just made his personal

explanation; and what did the Fellows do? Out of one hundred and eight Fellows present, eighty-seven voted for Sir William Jenner: that was their action. Sir J. R. Bennett came next, with seven: that was what they thought of his advice as President of the College. Nothing could be more significant than this election of President, as to what the Fellows as a body thought of the matter. The outgoing President (Sir J. R. Bennett) said "he had no fear for the future of the College, which was representative of British medicine, and he urged that the way to maintain its reputation was by circumspection in the elections into the Fellowship." This is a remarkable expression of opinion, certainly. For the College has washed a deal of dirty linen during his Presidentship, and the dissatisfaction about the method of electing Fellows is greater than ever. Perhaps the clique who have ruled the roast in the councils of the College could be well spared in the interests of the profession, to make way for others whose ideas of professional conduct are higher and more in accordance with what the profession, as a body, think and uphold.

This little matter is coming before the public in the *Times*. All the time that it was believed that the leaders of the profession were loyal to it in their refusal to co-operate with homœopaths, it appears from one of these letters that a homœopath can say, "I myself was admitted to professional friendship by the leading physicians and surgeons of London." Who, in the name of wonder, are these "leading" personages who practise the conduct complained of by the *Lancet?* There must be men in positions of eminence whose conduct is in private very different and opposed to what is publicly believed of them. It is only too painfully clear that there are men standing high in the profession who do not deserve the position they have acquired, or the confidence of the profession; and when an ex-President of the College and an actual President could advise Dr. Quain as they did, it is high time they gave place to men, men in every sense of the word, like Sir William Jenner, who will probably institute a very different and less undesirable state of affairs. Beyond the scandal which the present imbroglio is occasioning, there exists the serious difficulty of what is to be the rule of the profession about meeting homœopaths in consultation. From the exultant tone of the homœopathic writers to the *Times*, it is abundantly clear that they think the present difficulty is of decided advantage to them. They are not only exultant, but quite disposed to take the regular profession to task for their shortcomings and their rejection of the tenets of Hahnemann. They glory in the fact that "the great names of Risdon Bennett, Burrows, Watson, and Paget" approve of Dr. Quain meeting Dr. Kidd. A distinction, however, must be drawn between opinions given "before" and "after" the act, and the honored names of Sir Thomas Watson and Sir James Paget are dragged into the matter to support the cause in a manner which can only occasion deep regret in the minds of the regular members of the profession. I have long spoken out frankly that the position of medicine in England is unworthy of it; and though this has exposed me to hostile criticism on the part of one of our leading journals, which expressed its disapprobation of my letter, I venture to think recent events justify my expressions and vindicate what I have written. I have too much faith in humanity generally and in the profession in particular to believe that the present unsatisfactory state of matters can exist much longer.

J. MILNER FOTHERGILL.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA ACADEMY OF SURGERY.

STATED MEETING OF APRIL 4, 1881.

President, DR. S. D. GROSS, in the Chair.

DR. JOS. C. HUTCHISON, of Brooklyn, New York, was introduced by the President, and read a paper on

THE TREATMENT OF HIP-JOINT DISEASE BY THE PHYSIOLOGICAL METHOD OF EXTENSION. (See p. 481).

After the reading of the paper the author requested that the Fellows should freely criticise the points advanced.

Dr. W. H. Pancoast thought the weight of the limb would be insufficient extension for treatment of cases where continued tonic muscular contraction had set in. It would not prevent in the later stages that muscular contraction which causes dislocation upward of the femur by rupturing the softened capsular ligament. He had seen two cases where the physiological method did not seem to be advantageous in the second stage of coxalgia; indeed, he did not think that extension of any kind was here indicated, because the greater the pull the greater is the contraction and grinding together of the joint-surfaces pressing against the inflamed synovial membrane. *Rest* is the great principle of treatment, and hence in his experience in the advanced second stage he had to do tenotomy and myotomy in many cases in order to obtain rest, which Physick had insisted upon as the important factor in treatment. Pain is developed by the squeezing and rubbing of the inflamed synovial membrane of the bones, due to the muscular contraction about the joint. Any form of extension is good in the first stage to keep the joint at rest, but when the muscles become rigidly contracted and stronger than the weight, the strain is to be taken off by

myotomy and tenotomy. Counter-irritation by blistering or the hot iron is then often useful in addition to the constitutional treatment. After a time support by some of the mechanical means of extension to allow exercise is needed. *Rest* is the desideratum: mechanical appliances alone, which do not give rest but cause irritation, will not suffice.

Dr. S. W. Gross did not believe that the indications were fulfilled by the method suggested. Spasmodic contraction of the muscles which act upon the joint was not observed when the patient was awake or when the brain was on the alert to guard against it. Hence, if he were to employ the method during the day, he would keep up extension at night by the weight and pulley. Although fixation of the joint was of the first importance, it would not do to depend upon the efforts of nature, since the constant contractions of the muscles not only intensify the inflammation present in the synovial membrane, the investing cartilages, and bones which enter into the composition of the hip, but force the head of the femur into an unnatural condition. After the signs of acute inflammation had subsided, he would, therefore, permit the patient to go about on crutches in the manner advised by Dr. Hutchison, but he would fix and keep the joint at rest by the posterior splint of Agnew, which extends from the middle of the leg to the middle of the back.

Dr. D. Hayes Agnew said that some statements in the paper met with his heartiest assent, but that he must dissent from others. As to apparatus supposed to separate the joint-surfaces, he believed that such a separation was not possible while the patient was going about walking on the affected limb. Certainly it was impossible in healthy joints, and seemed scarcely possible even in diseased articulations with softened ligamentous connections and intracapsular effusions. Thus far he agreed with Dr. Hutchison. He did not assent to intrusting the fixation of the joint to nature's efforts. To obtain the full benefit of rest it was necessary to relieve the muscles from all contraction. Muscular tension involves vascular tension; it attracts an undue amount of blood to the diseased part, and, therefore, intensifies the inflammation. He believed in immobilizing the joint by a posterior splint somewhat similar to the one employed by Thomas, of Liverpool, at the same time placing a high shoe on the foot of the sound limb and allowing the patient to move about on crutches. Extension, save in exceptional cases, he had not found necessary. Only let the muscles be assured that the joint is securely fixed, and all spasm and pain will cease. On the day of the meeting he had seen a case of coxalgia in a little girl, who was suffering great pain, which, however, disappeared on grasping the limb and holding it perfectly quiet. Another objection which holds good against the physiological method of Dr. Hutchison is the liability of the patient to sustain damage in the joint, when not supported by a splint, from falls to which all children are much exposed.

Dr. De F. Willard had tested the method in many cases since the first publication of Dr. Hutchison's views, but, while highly approving of the general plan, had made a modification, which he believed was needed because but one indication was fulfilled,—*i.e.*, *extension*,—while *fixation* was also necessary. The remark that we simply put the joint in a state of rest and let nature cure was wise; but it did not seem judicious to compel the muscles to fix the joint when they could accomplish it only by forcing an inflamed caput against a sensitive acetabulum. Walking on crutches was necessarily accompanied by a decided hip-swing at each step. Fixation could be readily secured by a moulded pasteboard, plaster of Paris, silicate of sodium, felt, or leather splint, which must go up upon the thorax as far as the sixth dorsal vertebra, because no splint fixes the hip-joint which does not rest against the ribs. With such fixation and the elevated shoe Dr. Willard had obtained good results. In his experience extension by a weight and pulley at right angles was necessary in the acute inflammatory cases of hip-joint disease. The impossibility of sitting down while encased in the dressing referred to could be easily obviated by the use of the locking and unlocking splint described by Dr. Willard in the *Philadelphia Medical Times*, November 6, 1880, which allows fixity or motion at will.

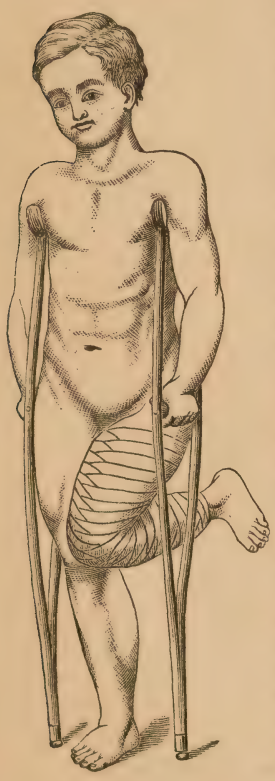
Dr. W. W. Keen had repeatedly tried the method, and thought it was admirable as far as *extension* was concerned; but, as the muscles are attached at an acute angle to the bone, they can produce *fixation* only by driving the femur firmly up against the acetabulum. He therefore advocated with the high shoe and crutches the use of a splint for fixation. He had recently seen a case of spasm of the tensor vaginæ femoris and other hip-muscles, due to phimosis, which simulated hip-joint disease. The muscular spasm remained absolute even under ether. Circumcision was performed, and in two weeks the child was well. Dr. Keen had used the high shoe and crutches in knee and ankle cases with great benefit, and thought the method one of the most useful devices of recent times.

Dr. Addinell Hewson referred to an instance in which, shortly after the introduction of ether, he had employed etherization and straightened a hip-joint which was supposed to be permanently anchylosed. No after-suffering resulted, and the patient was well in three weeks, having been treated with N. R. Smith's anterior splint and then a high shoe on the well side and a crutch on the other side. At the present time, after the lapse of

many years (nearly thirty), the man does not even require a cane in walking.

In answer to a question of Dr. S. W. Gross, Dr. Hewson said that he did not in any way wish it inferred that *he* had anticipated Dr. Hutchison's method: on the contrary, *his* purpose in putting the high heel on the foot of the *well* side was merely to prevent any pressure on the lame joints, and not, as Dr. Hutchison's, to effect extension by the weight of the limb (one-fifth of that of the body) there. His selection of Prof. N. R. Smith's anterior splint was to secure the complete rest of all the muscles at the hip, as was claimed by the Professor in his first account of that splint then published.

Dr. R. J. Levis had adopted the method, but not in the early or acute stage. Then he employed extension, as in fracture of the thigh, by means of a weight and pulley; subsequently the patients were allowed to walk on crutches with the high sole on the sound side. All his cases did well. It had occurred to him to use a simpler method, and one by which more fixation of the hip could be obtained if necessary. A diagram drawn upon the blackboard represented his idea, which consisted in lifting the foot of the diseased side from the ground by flexing the knee and keeping it flexed by a silicate of sodium splint, or encasement, which after being cut open in front was removable and readily reapplied by bandaging or by lacing it up. The patient then walked upon crutches without the necessity of the awkward elevation of the well side by a thickened sole. The flexed position is maintained during the day when the patient is walking on the crutches, but removed at night, when a weight extension apparatus may, if necessary, be applied. This method he preferred, because more convenient and less troublesome to the patient than the original method. He had shown at a previous meeting of the Academy two patients under this method of treatment. If complete fixation of the hip is desired, the silicate splint can be carried up on the pelvis. If the weight of the limb is not sufficient to overcome muscular spasm, sheet lead can be fastened in the folds of the bandage near the knee. His experience taught him that fully developed coxalgia cases are cured only after thorough muscular fixation and plastic adhesion, and rarely with the final result of much true motion in the coxo-femoral articulation.



Dr. W. H. Pancoast thought the pelvic fixation spoken of by Dr. Levis, if the stiffened bandage is carried up as high as the thorax, an improvement over the mere flexing of the knee as shown in the case presented at the former meeting, to which reference has been made. Cases in his opinion can be cured without anchylosis. Rest is to be insisted upon, but it cannot be obtained by fixation alone or extension alone; they must be used together, so as to give ease and rest. He preferred the term *rest* to the terms fixation and extension as now usually employed by surgeons. *Rest* to the diseased joint to prevent pressure on the inflamed synovial membrane is what should be enunciated, and what is taught by the pathology. Any one of these mechanical appliances which will give rest is beneficial. When the appliance will not give rest, and hence instead of giving the patient ease causes suffering, it must be removed, and other means employed. In the advanced second stage of the disease, extension will not give rest to the contracted muscles. If the peri-articular muscles are rigid while the patient is etherized, tenotomy or myotomy must be performed. If they are not rigid, the joint will bear extension. Last year he had seen a case brought from Liverpool wearing Thomas's splint, and was obliged to exsect the head of the bone because the disease had advanced to the third stage, as there was so much caries of the joint, with so great a discharge of pus, and consequent exhaustion. If it had been properly treated with Thomas's splint, and positive rest given in the first stage, he thought it would have done well. In the second stage spasm grinds the synovial membrane between the joint-surfaces, and if rest by extension or in bed is not gained, then tenotomy and myotomy are required. Counter-irritation may be necessary. He had examined a number of cases of joint-disease, and had never seen cartilages ulcerated or inflamed. Fine ether and vermilion injection failed to show a drop of the red injection in them. After amputation in the the living subject, he had seen cartilage exposed to the air and irritating fluids, and yet no inflammation was seen nor shown by the appearance of any blood-vessels in the cartilage. The cartilage became softened and of a dirty appearance, losing its pearly color, and was absorbed by the pulpy synovial membrane, but there was no evidence of inflammation in the cartilage. Synovial membrane becomes inflamed and excessively sen-

sitive, but articular cartilage has no sensation of pain, and cannot become inflamed, but macerates and is absorbed by the absorbent vessels in the synovial membrane.

Dr. S. D. Gross was taught very early in life that rest was the feature in the treatment of all inflammations. He had always insisted in his own teaching that rest was essential in joint-inflammation, and he believed that as fixation and extension give rest they were proper terms to use. He would have liked to hear the pathology of hip-joint disease discussed,—whether it was due to a constitutional vice or to ordinary causes apart from such a vice,—whether it was in its etiology constitutional or traumatic. Twenty-three years ago he had published in the *North American Medico-Chirurgical Review* the account of five cases of dissection after death of cases suffering from coxalgia. In every instance the patient was found to be tuberculous. He believed in the propriety of using early in the disease the actual cautery, as in similar affections of the ankle, knee, or vertebræ. He was satisfied from long and ample experience that it was a most important agent for arresting the morbid action before it had made any serious inroads in the articular structures. Combined with absolute rest of the affected joint, it left nothing to be desired so far as local treatment is concerned.

Dr. S. W. Gross remarked that there was a difference in the inflammatory process as exhibited in vascular and non-vascular structures. Active proliferation of the cells is the criterion of inflammation, and the gentleman who had denied that cartilage ever inflamed had, in his opinion, given an accurate description of the naked-eye appearances of that process.

Dr. Joseph C. Hutchison, in closing the discussion, remarked that the extension, by stretching the limb, prevents the spasm, which occurs especially at night, though it may occur in the daytime if the patient sleeps. If the patient be laid upon his back with the spine resting on a flat table, and the surgeon attempt to straighten the thigh, the back curves upward, showing that the pelvis moves with the femur because the joint is fixed by the contracted muscles. During the second stage it will be found that in nine-tenths of the cases the pelvis moves with the limb. This shows that the joint is kept at rest by the muscles: hence there is no need of uncomfortable appliances to enforce rest. If splints are adjusted with the idea of keeping up some extension while motion at the joint may take place, it will be found on careful watching that the patient in walking gets motion at the sacro-iliac joint and not at the hip. Plaster of Paris and the other splints mentioned certainly would fix the joint, but the muscles do this anyhow. Thomas's splint fulfils this indication, but is unnecessary. He has removed such a splint, and the patient has been comfortable without it. In the method advocated to-night the patient can sit down or can defecate with much greater ease and comfort than when wearing any of these fixing splints. The child is happier on the crutches, and just as comfortable as when lying in bed with weight extension. The physiological method does not compel the muscles to fix the joint, because they do this without compulsion.

JOHN B. ROBERTS, M.D.,
Recorder.

REVIEWS AND BOOK NOTICES.

THE PRINCIPLES AND PRACTICE OF SURGERY. By D. HAYES AGNEW, M.D., LL.D., Professor of Surgery in the Medical Department of the University of Pennsylvania. Vol. II. Philadelphia, J. B. Lippincott & Co., 1881.

Vol. I. of Dr. Agnew's work has been so long and so favorably known to the profession that any general introduction of the volume under consideration is unnecessary. The very flattering commendations of the medical press at home and abroad, the frequent references in surgical literature to the book and to the teachings of the author, and, above all, the practical test of daily consultation, which has demonstrated its value to those who possess it, have sufficed to establish the work as one of the few great recognized guides and authorities in surgical practice, and have rendered the advent of the second portion an occurrence of importance to the profession.

This volume contains thirteen chapters, beginning with a very exhaustive one upon the subject of *Dislocations*. The instructive plan has been followed here, wherever possible, of placing side by side illustrations representing, on the one hand, the anatomical position and relations of the displaced bone, on the other the resulting deformity. Especial attention is paid to the principles of surgical mechanics involved in the production of luxations and in the retention of the bone in its abnormal situation. The explanations of the manipulations employed in reduction are admirable in their clearness and their fulness of anatomical knowledge. In the reduction of recent luxations of the humerus where manipulation has failed, Dr. Agnew prefers the method of La Mothe,—*i.e.*, with the arm parallel with the side of the head and face. A table of anomalous dislocations of the femur is given, presenting in a concise form most of the recorded cases of supra- and infra-cotyloid and perineal luxations; also a table of the recorded cases of dislocations of the fourth, fifth, and sixth cervical vertebræ is given. The most important article in this chapter is, perhaps, that upon luxations of the hip, which are discussed at considerable length, the various positions of the head of the femur, the characteristic deformities, and

the different forms of apparatus employed in reduction being abundantly illustrated.

The following chapter is upon *Diseases of the Joints*, first treating of general conditions, as synovitis, anchylosis, strumous arthritis, etc., and then of diseases of special joints. Naturally the article on Coxalgia here predominates, and we would recommend it to critical readers as an illustration of the care and thoroughness with which the book has been written, and also of the happy combination of independence with conservatism which may be said to characterize the teachings and practice of the author. Here, as elsewhere, the phenomena of the disease are not merely enumerated, but are carefully explained, so that their remembrance by the student or practitioner becomes not an act of memorizing, but a rational association of cause and effect, of pathology and symptoms. Numerous tables are given enabling the reader to see at a glance the points of diagnostic difference between coxalgia and psoas abscess, Pott's disease, rheumatism, luxations, sacro-iliac disease, etc.

In regard to the very important and somewhat disputed point of the employment of splints in the treatment of this affection, the author thus unequivocally states his views: "I believe that the various mechanical appliances designed to combine extension with motion are in most instances highly prejudicial, tending to perpetuate inflammation and to favor suppuration, and thus either to prevent resolution of the arthritis or to delay anchylosis where that termination is inevitable. All the so-called walking splints, which allow the weight of the patient to rest on the affected limb, not only do not, in my judgment, fulfil the indications required in the treatment of coxalgia, but are at variance with all the principles involved in the management of the inflammation." The author protests against the extreme views which on the one hand deny the existence of strumous or scrofulous diseases of joints and refer all such cases to traumatic causes, or, on the other, affirm that in children such diseases invariably arise from diatheses of this nature. He believes that both causes are operative, the constitutional condition when present constituting a powerful predisposing element. Tables contrasting the differential symptoms of arthritis and pseudarthritis, hip and knee-joint disease, sciatica, spine disease, rheumatoid and strumous arthritis, are also given; and the description of the pathology and treatment of these ailments is most complete and accurate.

Excisions and *amputations* are next considered, and it is safe to say are nowhere better described, in some respects—especially in the fulness of the surgical anatomy and its application to practice—being superior to anything with which we are familiar in other systematic works on surgery. The illustrations here are profuse and uniformly good. Throughout this portion of the book the results of recorded cases are given with great care, and the average mortality invariably stated, that it may serve as a guide in the selection of an operation. The statistics of amputations are made up from a table of about fourteen thousand major operations, affording a far more extended basis for deductions than any hitherto compiled. The author's modification of the musculo-tegumentary method of amputation, described by him some years ago in the *Times*, is here given, with an illustrative cut which is perhaps the least instructive in this section. The article on *general considerations in regard to operations*, that on *accidents during and after operations*, and that on *complications following amputation* are worthy of careful perusal by every one engaged in surgical practice, as containing advice on many usually neglected points and embodying the results of years of large experience and careful observation. The chapter on *Anæsthetics* contains some very interesting sphygmographic tracings showing the relative influence of ether and of chloroform upon the heart. After mentioning the large number of recorded deaths from chloroform—which the author's researches have shown to be almost four hundred—and comparing them with the three doubtful cases of death from ether, he adds, "It seems to me that a surgeon who, in the face of such evidence, will continue to employ chloroform, assumes a tremendous responsibility. I hold that where two agents are open to choice, both capable of suspending sensibility and voluntary motion, we are bound, in justice to our patients, to select the safer. No man has any right to jeopardize unnecessarily the life of a fellow-being. Chloroform, except in the few cases where ether fails to produce decided anæsthesia, should be banished from surgical practice."

Shock, *Traumatic Fever*, *Burns*, *Erysipelas*, *Furuncle*, are all treated of carefully and with originality. In regard to the traditional treatment of carbuncle by the crucial incision, he states that for eighteen years he has rarely found it necessary to employ it, and believes that, as a rule, it neither hastens the cure nor lessens the suffering. To those surgeons who have witnessed the pain, the shock, and sometimes the serious hemorrhage which follow this operation, his dictum will not be unwelcome. The chapter on *Injuries and Diseases of the Genito-Urinary Organs* follows, and is very comprehensive, occupying three hundred pages of the volume, being indeed almost a treatise in itself. Cancer and fracture of the penis, wounds and lacerations of the urethra, urethral fever (which he believes to be a form of traumatic or surgical fever), urethral fistula, foreign bodies in the urethra (treated of with unusual fulness), gonorrhœa, with its sequelæ, diseases of the prostate

(a most instructive article), cystitis, hæmaturia, urinary incontinence, catheterism, varicocele, hydrocele, orchitis, spermatorrhœa, sterility, impotence, cancer of the kidney, and many lesser articles, make up this section, the many excellences of which want of space forbids us even to mention. We would, however, call especial attention to the articles on Vesical Calculus and on Urethral Stricture. In the diagnosis of the latter complaint, bulbous bougies are recommended as the best exploratory instruments, and steel bougies for the subsequent dilatation, which, it is most properly taught, should be always the first employed method of treatment. Failing in this, the author advises incision or internal urethrotomy, followed by dilatation. "The radical cure of stricture," he says, "I believe to be entirely beyond the reach of surgery, notwithstanding the immense and varied resources at her command."

After an elaborate study of the methods and results of removing stone from the bladder, he sums up his conclusions as follows:

1st. All cases of calculus occurring in infancy and childhood should be lithotomized. 2d. All cases occurring in adults in which the stone is soft, and not too large, should be treated by lithotrity. 3d. Even cases of hard stones, consisting chiefly of oxalate of lime (provided the concretion is small), and especially if there is any evidence of the existence of renal disease, should be treated by lithotrity. 4th. All cases not included in the above category are proper subjects for lithotomy. The particular method of the operation is to be determined by the magnitude of the calculus. 5th. Calculous patients suffering from serious structural disease of the kidneys are unsuited for either lithotomy or lithotrity, and should be content with "palliative treatment." A similar summary is given of the subject of stone in the female. The following quotation indicates the author's customary judicial frame of mind, even where he himself is concerned:

"It is very unwise for a surgeon to become too much elated by a long run of success. For several years—one year seven times—I cut patients for stone without the loss of a single case, when I became disposed to criticise the average mortality of the operation; but immediately afterwards I lost three cases in rapid succession."

He believes that the highest success would be obtained in lithotomy if the median operation were selected for small calculi, the lateral for stones of medium size, the bilateral for stones above the medium size, and the suprapubic for such as are of great magnitude.

A table of twenty-nine cases of nephrotomy shows fifty per cent. of recoveries,—a rather surprising result, when the gravity of the operation is considered.

The chapter on *Surgical Diseases of Women* embodies his well-known views on the treatment of vesico-vaginal fistula, and contains articles upon malposition and flexions of the uterus; dysmenorrhœa; uterine tumors; carcinoma; extirpation of the uterus; ovaritis; pelvic cellulitis; extra-uterine pregnancy; rupture of the uterus, and Cæsarean section. The author gives minute directions for the diagnosis and treatment of ovarian tumors; regarding the existence of the "ovarian cell" as yet undemonstrated; asserting that the tapping of such tumors, though rarely producing a permanent cure, is yet a harmless operation if properly performed; preferring the clamp for a long pedicle, the cautery or the carbolized ligature for a short one; and giving a table containing an analysis of 5153 cases of ovariotomy collected for this work. A table of 107 cases of Battey's operation is also given. In the chapter on *Surgical Diseases of the Spinal Region* the most important articles are those on lateral curvature and on Pott's disease. The treatment of the latter affection is most elaborately considered, and the various splints described. The felt splint the author has tried and disapproves of; and although in speaking of the plaster splint he pays a deserved tribute to Prof. Sayre, in saying that for its discovery "humanity owes him a debt of everlasting gratitude," yet he prefers a jacket made of leather and stiffened by thin strips of steel, a dressing which is lighter and far more durable.

The volume is concluded with a chapter on *Diseases of the Mouth*, which is in no respect inferior to the general standard of the work, and is quite sufficient in itself, without being supplemented by monographs, to serve as a guide upon these subjects to the working practitioner. It includes, somewhat comprehensively as regards its title, articles on glossitis, lingual tumors and cancers, caries of the teeth, odontalgia, dentigerous cysts (with a table of 36 cases), caries, necrosis, and tumors of the lower jaw, affections of the antrum, cleft palate, diseases of the tonsils, pharyngeal abscess, wounds and growths of the œsophagus, œsophagotomy (with a table of 36 cases), and directions for the evacuation of the stomach in emergencies.

The illustrations, which amount in the two volumes to nearly seventeen hundred, are excellent, often entirely new, and always selected with judgment. The index is unusually full and accurate, and the typography and general appearance of the volume are very creditable to the publishers.

It may be pardonable to say, in conclusion, that no one not personally acquainted with the author and with the harassing and incessant professional demands upon his time can conceive of the difficulties under which this work has been composed. That Dr. Agnew has been able, under these circumstances, to produce a book so comprehensive in its scope, so thorough in its details, so clearly expounding the principles of surgical science, and at the same time summarizing and recording

the results of an immense personal experience, is in the highest degree creditable to him, both as author and teacher.

No practitioner who needs—as who does not?—a conscientious and intelligent guide in emergencies or in difficult, obscure cases, or who wants a safe and reliable counsellor in the routine of daily practice, can afford to be without this latest and best production of American surgery. J. W. W.

SYPHILIS AND MARRIAGE. By ALFRED FOURNIER, Professeur à la Faculté de Médecine de Paris, etc. Translated by P. ALBERT MORROW, M.D. New York, D. Appleton & Co., 1881.

No question of more importance to the community presents itself to the thoughtful physician than that of the relations of syphilis to the public health, and no graver mistakes are committed in the practice of medicine than those of the untaught or misguided practitioner who undertakes to give advice upon the vital, yet delicate, question of the matrimonial relations of the syphilitic.

M. Fournier's eminence and great experience are sufficient *a priori* grounds for believing his book to be entitled to careful consideration; and a perusal serves to confirm this view. He has presented in a condensed but readable form the result of the acute and philosophic observation of a large number of cases, illustrating in detail, when necessary, and formulating his conclusions here and there throughout the book in terse and weighty sentences.

The book is divided into two main sections,—the first devoted to the period before marriage, when it becomes the physician's duty to determine whether or not marriage is at all permissible, and, if so, to fix the date; the second, considering the means of arresting or lessening the dangers produced by the marriage of syphilitics when that has already taken place without medical advice or in defiance of it.

The materials for producing such a work do not exist in this country, and could hardly have been obtained outside of the special hospitals of Paris, which have afforded the author a field which he has cultivated with rare originality. Syphilis by conception, by paternal or maternal heredity, time of specific treatment, personal dangers of the husband, dangers to society, social prophylaxis, are subjects the enumeration of which is sufficient to show the scope and interest of this interesting and valuable work, which removes a long-felt deficiency in medical literature. J. W. W.

STUDENTS' AIDS SERIES. G. P. Putnam's Sons. Part I.—SEMEIOLOGY. By J. MILNER FOTHERGILL.

An historian of our time has said, "The knowledge which a man can use is the only real knowledge,—the only knowledge which possesses growth and vitality, and converts itself into practical power. The rest hangs like dust about the brain, or dries like raindrops off the stones." So able an exponent of semeiology as the author could only dispense crumbs of golden thought; but our comment is that the fragments are too small to be of much practical utility. It is impossible to put some subjects in a nutshell.

The companion work, "Aids to Physical Diagnosis," by J. C. Thorowgood, is excellent, so far as the limit of sixty small pages will permit, and we like it better than many more pretentious works. E. T. B.

GLEANINGS FROM EXCHANGES.

THE CAUSES OF PRURITUS VULVÆ.—In a clinical lecture on this subject (*British Medical Journal*, vol. i., 1881, p. 327) Dr. Wiltshire mentions the animal and vegetable parasites as frequent local causes of this condition. Ascarides, pediculi, and acari are among the former, and certain low forms of vegetable life, as thrush fungus (*oïdium albicans*), among the latter. Among other local causes we have—1, diseases of the vulva (as vulvitis, abscess, carcinoma, oozing tumor, lupus, elephantiasis, etc.); 2, diseases of the urinary system (urethra, bladder, and kidneys); 3, vaginitis (gonorrhœal and other); 4, diseases of the uterus (metritis, endometritis, senile catarrh, cancer, fibroids, polypi, acrid discharges arising from the foregoing or occurring mainly in association with menstruation); 5, skin affections (eczema, ecthyma, herpes, urticaria, acne, etc.). As regards the latter, eczema may be associated with diabetes, producing terrible suffering, while urticaria suggests ovarian disease. Ecthymatous spots with ashen-gray bases may indicate grave cachexy (syphilitic?), while the herpetic vesicles are prone to crop out periodically in females of gouty parentage just before each menstrual period. A pustular form of acne is sometimes accompanied by troublesome itching. Venereal warts may excite itching.

Malignant disease of the uterus and upper part of the vagina may provoke itching in two ways: first, by acrid discharges; and secondly, reflexly,—the latter uncommonly. The same may be said of fibroids, polypi, sarcomata, etc. Dr. Wiltshire has known pruritus to exist for a long time apparently as a consequence of pelvic effusions, *e.g.*, hæmatocele, cellulitis, partly, perhaps, from venous obstruction and partly from implication of nervous structures. Some discharges from the womb are virulently acrid, and excite excoriation of the parts over which they flow. These are revealed by the speculum. Urethral and vesical affections—*e.g.*, vascular growths, stone, incontinence, etc.—are sometimes complicated by vulvar itching. Careful local investigation is therefore necessary; for, even when some general condition, as

diabetes, is present, the local condition may give valuable information.

Among general causes we find diabetes, pregnancy, gout (or lithiasis), syphilis, and pruritus senilis. Diabetes is not an uncommon cause, and vulvar pruritus may be one of the first symptoms which lead to its detection. Pregnant women are liable to a severe form of pruritus vulvæ, accompanied usually by an abundant creamy discharge. Sometimes aphthæ or erosions are seen upon the turgid labia or cervix, or there may be vaginitis granulosa. Most of the cases which Dr. Wiltshire has seen have been accompanied by extreme venous turgescence. Gouty pruritus is apt to be brought on by indulgence at the table or any diet which increases the deposit of lithates in the urine. Chancres and venereal warts (which last Dr. W. apparently considers syphilitic.—ED.) may provoke irritation. Pruritus senilis is often associated with general cutaneous hyperæsthesia. Klob says there are little elevations of the skin, like goose-flesh, consisting of growths analogous to tubercular formations, and giving rise to violent itching. These cases are grave. Some are amenable to the bromides used locally as well as internally. Arsenic and cod-liver oil are also indicated.

All forms of pruritus vulvæ are subject to periodical exacerbation. Some patients suffer only at night, after becoming warm in bed, experiencing comparative freedom during the day. All who menstruate are conscious of aggravation at that time. Stimulants, as a rule, exert an injurious effect. Sedentary occupations, piles, and hepatic disorders aggravate pruritus.

THE TREATMENT OF PRURITUS VULVÆ.—In a clinical lecture on the subject of vulvar pruritus, part of which we give above, Dr. Wiltshire (*Brit. Med. Jour.*, vol. i., 1881, p. 328) says that the first thing is to find, if possible, the cause. Extreme cleanliness must be enjoined. Demulcent washes are better than soap, unless carbolic or coal-tar soap be used; and usually even these are inadmissible. Almond meal, strong bran-water, decoction of rice, marsh-mallow, slippery elm, or fine oat-meal are suitable, especially the first, which, if pure, yields during use a marked odor of hydrocyanic acid and appears to soothe materially. When the pruritus is due to animal parasites, ointment of white precipitate, sulphur, or stavesacre speedily cures by destroying the insects and their ova. If nits persist about the pubic hairs, a lotion containing bichloride of mercury and acetic acid will dissolve them. Ascarides are destroyed by a carbolic lotion (1 to 60): general treatment, however, should be used, as iron, quinine, cod-liver oil, together with enemata of hamamelis, lime-water, iron, etc.

The vegetable parasites are treated by washes of borax, boracic acid, sulphurous acid, etc. Parasiticide lotions are certainly the most useful in the majority of cases, which points towards vegetable organisms as the commonest cause of the pruritus. The borax lotion should be of the strength of a drachm to five ounces of warm water, or stronger. Hydrocyanic acid, say ℥j of the dilute acid to water ℥x, or morphia (2 gr.), atropia (½ gr.), aconitia (½ gr.), or veratria (½ gr.) to the same amount. Infusion of tobacco (half an ounce to the pint) alone relieves some cases, and forms a good vehicle for borax or boracic acid. It is not well to use glycerin with the borax, as a rule, as it is apt, owing to its affinity for water, to aggravate the irritation. Strong solution of poppy is a good vehicle for borax. Chloral frequently does not suit. Ice suits some, very hot water others. In some cases ether spray might be tried. Ointments, if used, should be of non-rancid fats or vaseline. Two drachms of iodine (tincture?) in two ounces of elder-flower water sometimes answers. Electricity may afford relief in neurosal cases. Probably faradism would be the preferable form.

In simple vulvitis borax or carbolic-acid lotions relieve. An ointment of calomel or bismuth is also good. Malignant affections of the parts call for ablation, but where this is not practicable sedative applications (conium, opium, belladonna) alone are often all that we can employ.

Of course urethral caruncles, urethritis, vaginitis, etc., should receive thorough treatment. When there is congestion with loading of the portal circulation, a mercurial and saline purge is helpful. When eczema with fissure is present, a poultice made of the clot formed by adding two drachms of lead-water to ten ounces of new milk is most useful. Diabetes must of course be combated, and frequent ablutions with borax washes form a good local treatment. In wakefulness from diabetic pruritus, codeia in one-grain doses in pill is often useful. The bromides are also useful.

Pregnant women often suffer terribly. When *oïdium albicans* is present, sulphurous acid gives relief. A tablespoonful should be freshly mixed with half a pint of warm water, barley-water, or almond emulsion for each application. Chloroform locally, in liniment, ointment, lotion, or vapor, answers well occasionally; bichloride of mercury, gr. i–v, ad ℥viij mist. amygdalæ, gives relief in some cases. It should not be used when there is abrasion. Section of the pudic nerve has been suggested in desperate cases, but has never been practised.

MICRO-ORGANISMS IN SURGICAL DISEASES.—Dr. Alexander Ogston presents an elaborate report on this subject to the Scientific Grants Committee of the British Medical Association (*Brit. Med. Jour.*, vol. i., 1881, p. 369), in which he reaches the following conclusions. The organism most closely examined was the micrococcus, though others also are figured in

the drawings accompanying the report. In inflammation the results are summed up as follows. Cold abscesses contain no micro-organisms, and their pus is harmless. Acute and pyæmic abscesses always contain micrococci. Pus whose micrococci are killed by carbolic acid or high temperatures is harmless. Pus containing micrococci is resisted by animals if the dose be minute or if it be injected into the peritoneal cavity. Doses of one or two minims injected into the subcutaneous tissue may cause death by blood-poisoning, or may cause sphacelus of the site of injection, or may be resisted by an unusually insusceptible animal. As a general rule, such doses produce acute inflammation, accompanied by blood-poisoning and ending in abscess.

The results of observations on wounds and suppurations other than abscess are thus summed up by Dr. Ogston. Suppurating wounds contain micrococci, whose numbers and activity are proportionate to the intensity of the suppuration. Listerian dressings prevent micro-organisms from gaining access to wounds. Micrococci in wounds withstand most antiseptic applications. Where no micrococci are present in wounds, no pus is produced; the discharge is serous. Micrococci exist wherever pus occurs, save in chronic suppurations, such as cold abscess, chronic acne vulgaris (?), etc. Micrococci in man produce the same varying effects as in animals: they may produce blood-poisoning without suppuration; they may cause suppuration; or they may be resisted by strong individuals under favoring circumstances. Lastly, there are, possibly, micrococci which do not produce suppuration.

Cultivation experiments showed that micrococci do not produce putrefaction. They develop best when removed from the atmosphere. The facts adduced by Dr. Ogston prove that micrococci are able under suitable conditions to give rise to blood-poisoning, to acute inflammation, and to suppuration. Dr. Ogston adds, in conclusion, that it is not intended to be conveyed by anything which he has said that micrococcus is the only organism which produces inflammation and blood-poisoning. The other organisms are to be investigated in their turn, and much yet remains to be done, for the subject is only in its infancy.

MISCELLANY.

A Bold Piracy.—The following letter appeared in the *New York Medical Record* for April 2:

"Dr. Fancourt Barnes, M.R.C.P., Physician to several lying-in hospitals of London, has recently issued a 'German-English Medical Dictionary,' which has been imported and is offered for sale by Blakiston, of Philadelphia.

"After a careful examination I find that Dr. Barnes has copied nearly every one of my words, with their definitions; the latter in the same sequence and with the same punctuation. The few typographical and other errors which escaped correction in the first edition and remained in my plates have, in nearly every instance, been so faithfully copied as to appear ludicrous, were it not for the fact that this alone affords sufficient proof of a shameless piracy. In reading German it is necessary to know the genitive as well as the plural termination of the noun, and a verb may have an entirely different signification according to the auxiliary used. These I have given, but Dr. Barnes has erased them; occasionally he has neglected to do so, and then they have been copied by his printer. Dr. Barnes must have corrected his proof very carelessly, or he would have detected these inconsistencies, as well as many errors in spelling, misplaced and omitted *umlauts*, etc., not contained in my dictionary, and which must prove very confusing to the student. The Latin word for *or* is often used in my definitions. Dr. Barnes attempted to suppress this resemblance by substituting a comma for this word; his frequent failure to do so is significant. In the definitions where I have accidentally omitted a comma, where a semicolon has been wrongly used, where words closely related are separated by others which should appear earlier or later, etc., Dr. Barnes has carefully followed suit. In short, there is not a page in his book which does not reveal the fact that he has stolen my whole work, adding a very few medical words and a number of chemical and zoological terms which may be found in the ordinary German dictionaries. I do not find more than a score of my words omitted, and the two books contain the same number of pages.

"As stated in my preface, my dictionary is an original work, the result of many years of industrious research. The sale of such a book is necessarily limited; nevertheless I hoped soon to be able to issue a revised edition, containing several thousand more words. Though Dr. Barnes's book has not facilitated the reading of German medical writings, he has—unless discountenanced by the press and by the profession, as I have every reason to expect he will be—rendered my new edition impossible for many years. Respectfully,

"G. R. Cutter, M.D.

"312 Second Ave., New York, March 2, 1881."

A Curious Case of Assault and Battery by a Physician.—The case of Latter *vs.* Braddell and wife and Sutliffe has attracted some attention in English medical circles of late, and is worthy of note. The case was an action for "assault and battery," brought by a young woman, a domestic servant, against her master and mistress. The mistress, suspecting that her servant was *enceinte*, had subjected her against her will to ex-

amination by Mr. Sutliffe, a medical man, who was joined as a co-defendant in the action. The case was tried before several judges in succession, these "doctors," as is usual, disagreeing. The court of final appeal decided in favor of the defendants; but the case is a warning to medical men that they should be sure of the consent of their patients before proceeding to examine them at the request of a third party.

WHEN DOES THE DANGER OF INFECTION IN SCARLATINA CEASE?—Mr. John Simon (*Lancet*, vol. i., 1881, p. 146) says, "It is believed that the dispersion of contagious dust from the patient's skin is impeded by keeping his entire body (including limbs and head and face) constantly anointed with oil or other grease, and some practitioners also believe this treatment to be of advantage to the patient himself. When the patient's convalescence is complete, the final disinfection of his surface should be effected by warm baths (with abundant soap) taken on three or four successive days, till no trace of roughness of the skin remains. Not until this has been done, nor without the greatest care that the clothes are clean and free from infection, should the patient, however slight may have been the attack, be allowed to associate with persons susceptible of scarlatina."

A NEW instrument for the application of cotton to the larynx, os uteri, etc., has been devised, consisting of a stout probe nine inches long, terminating at one end in two sharp spirally-twisted prongs. The cotton is twisted into these, and if to be left in the cavity can be detached by a reverse movement.

ANOTHER VICTIM TO TOBACCO.—A medical exchange states that Melohiah, a Choctaw princess, died at Hoyt City, in the Indian Territory, the other day, at the great age of one hundred and fourteen years. She had thirteen great-great-grandchildren. She had been addicted to the inordinate use of tobacco for one hundred and five years.

NOTES AND QUERIES.

THE NEW YORK MEDICAL JOURNAL,
OFFICE OF THE EDITOR,
33 EAST 28TH STREET,
NEW YORK, May 1, 1881.

HORATIO C. WOOD, M.D.,
Editor of the *Philadelphia Medical Times:*

DEAR DOCTOR,—In the *Times* for April 23, 1881, I notice an abstract of Dr. W. C. Ayres's article on "Permanent Pictures on the Retina" credited to the *Medical Record*. The article really appeared in this *Journal*.

Yours very respectfully,
FRANK P. FOSTER.

EDITOR OF THE PHILADELPHIA MEDICAL TIMES:

SIR,—In the report of my paper read before the Philadelphia County Medical Society that appeared in your issue of February 26 the word *card*-board appears as the substance from which the support is made. In answer to numerous inquiries, I desire to state that *tar*-board is what was suggested. It is in every way superior, dries hard, and retains the form well. It can be obtained from wholesale paper-houses.

Yours truly,
J. M. KEATING.

April 28, 1881.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM APRIL 17 TO APRIL 30, 1881.

SURGEONS J. H. JANEWAY and J. S. BILLINGS.—Directed to represent the Medical Department of the Army at the annual meeting of the American Medical Association to be held in Richmond, Va., on May 3, 1881. S. O. 96, A. G. O., April 27, 1881.

BACHE, D., MAJOR AND SURGEON.—Granted leave of absence for one month on Surgeon's certificate of disability, to take effect as soon as a medical officer reports for duty at Benicia Arsenal and Barracks. S. O. 62, Division of the Pacific and Department of California, April 16, 1881.

GREENLEAF, CHARLES R., MAJOR AND SURGEON.—To report to Superintendent-General, Recruiting Service, to conduct a detachment of recruits to Department of Dakota, and, on completion of this duty, to join his station (Fort Shaw, Montana Territory). S. O. 95, A. G. O., April 26, 1881.

MCCLELLAN, ELY, MAJOR AND SURGEON.—When relieved by Assistant-Surgeon Ebert, to repair to these Headquarters for assignment to duty. S. O. 44, Department of the Columbia, April 5, 1881.

BARTHOLF, JOHN H., CAPTAIN AND ASSISTANT-SURGEON.—When relieved by Assistant-Surgeon Spencer, to proceed to Fort Lapwai, Idaho, and report for assignment as medical officer of that post, relieving Assistant-Surgeon Ebert. S. O. 44, c. s., Department of the Columbia.

CRONKHITE, H. M., CAPTAIN AND ASSISTANT-SURGEON.—To proceed from Camp Sheridan to Fort McKinney, Wy., and report for duty at that post. Camp Sheridan to be discontinued May 1, 1881. G. O. 8, Department of the Platte, April 20, 1881.

HEIZMANN, CHARLES L., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty at Vancouver Barracks, and assigned to duty as Post-Surgeon at Fort Townsend, W.T. S. O. 44, c. s., Department of the Columbia.

AINSWORTH, F. C., CAPTAIN AND ASSISTANT-SURGEON.—Having reported at these Headquarters, will report to the Commanding Officer, Post of San Antonio, Tex., for temporary duty. S. O. 56, Department of Texas, April 11, 1881.

SPENCER, WILLIAM G., CAPTAIN AND ASSISTANT-SURGEON.—When relieved by Assistant-Surgeon Heizmann, to proceed to Fort Cœur d'Alene, Idaho, and report for assignment as Medical Officer of that post. S. O. 44, c. s., Department of the Columbia.

BIART, V., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—So much of par. 1, S. O. 205, September 24, 1880, from A. G. O., as relates to him is revoked. S. O. 94, A. G. O., April 25, 1881.

EBERT, R. G., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Instructions by telegraph of this date to proceed to Fort Lapwai, Idaho, and relieve Surgeon McClellan as Medical Officer of that post, temporarily, confirmed. When relieved by Assistant-Surgeon Bartholf, to rejoin proper station, Fort Walla Walla, W. T. S. O. 44, c. s., Department of the Columbia.

ARTHUR, WILLIAM H., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—To report in person to the Commanding Officer, Fort Sanders, Wy.T., for duty. S. O. 31, Department of the Platte, April 16, 1881.

BUSHNELL, G. E., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to duty at Fort Yates, D.T. S. O. 61, Department of Dakota, April 11, 1881.

WYETH, M. C., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to duty at Fort Meade, Dakota. S. O. 61, Department of Dakota, April 11, 1881.

PHILADELPHIA, MAY 21, 1881.

ORIGINAL COMMUNICATIONS.

CLINICAL NOTES RELATIVE TO PHYSICAL DIAGNOSIS.

Read before the Philadelphia County Medical Society, February 23, 1881,

BY EDWARD T. BRUEN, M.D.

THE subject-matter of the remarks I will offer to the members of the Society this evening is the outcome of some observations in the domain of physical diagnosis. I am inclined to think that in questions of diagnosis we are often as much puzzled from having forgotten or overlooked received explanations of the phenomena of disease as, on the other hand, from our failure very often to proceed on a logical method of clinical study. In the first part of my paper my remarks may illustrate the primary proposition.

In clinical study by means of physical diagnosis there is a tendency to exalt the importance of investigation by auscultation and percussion, because of their real primal importance, to the neglect of other methods. I propose, in what I shall say, to develop, in the first place, the method of inspection in the clinical study of pleural effusions, because I have remarked that while many cases present the acknowledged evidences of this condition, viz., flatness on percussion, absent or distantly blowing breathing, absent or intense but distant divocal resonance, abolished vocal fremitus, etc., yet with reference to one method of examination, viz., inspection of the chest, there are many exceptions to the received evidences as laid down in the works on this subject.

There are a number of cases of moderate pleural effusion demanding special treatment, possibly operative, which may remain unrecognized because inspection is not practised. But sometimes it is urged that no information rewards the observer, and the method may adduce misleading evidence. The proposition, however, is that the intelligent application of inspection as a method of diagnosis is capable of evolving important results.

Three physical signs are usually recognized by inspection in cases of pleural effusion,—viz., there will be an enlargement of the affected side, with rotund bulging of the chest and intercostal tissues, and abolished respiratory movements, so far as expansion and contraction are concerned, over the area of the effusion.

It is also well understood that above the level of fluid in cases of limited effusions the respiratory movements may be almost normal. There are, however, certain exceptional facts, of supreme importance, to which I would solicit attention. These facts are, first, that in cases of effusion, even when this almost fills the chest, an up-and-down movement of the ribs of the involved side will often occur. In addition to this, an actual in-and-out movement of the tissues of the interspaces will occur on the involved side synchronous with respiration; usually with inspiration a depression of the intercostal tissues occurs.* Dr. Alexander James has also called attention to some facts which I myself have often noticed,—viz., there is frequently no obliteration of the intercostal spaces, nor is there increase by measure of the affected side, but, further than this, the side of the chest supplementally active on respiration is most prominent.

To elucidate these facts, I would invoke your attention to the following thoughts. The above-named physical signs are most demonstrable, not in the acute or largest effusions, but rather in those of a subacute or more chronic type, in the lesser effusions and those undergoing absorption. What is the nature or composition of these effusions? In the *Medical Times and Gazette*, January 3, 1880, you can consult a paper by Dr. James, continued in two numbers, devoted to an analysis of the composition of Transudations and Exudations. He has shown that the density of pleural effusions is greatest as contrasted with abdominal, cerebral, or subcutaneous effusions, because the respiratory movements exert an enormous aspiratory force, predisposing to transudation into the pleural cavities as a relief to the overfilled capillaries when the circulation is in the least obstructed,—as, for instance, the hydrothorax which occurs in heart-disease or Bright's diseases, as well as in sero-inflammatory collections. Pulmonary aspiration, he continues, explains the greater density of peritoneal as contrasted with cellular effusions. But this is not the only cause of the density of pleural effusions. Hoppe-Seyler has shown that, in cases of

* Edinburgh Medical Journal, October, 1880.

ascites due to cirrhotic liver, the more the fluid increases in amount, the more concentrated does it become. This is owing to the fact that absorption is continually going on by means of the lymphatics and peripheral branches of the systemic veins; and as water is the constituent of the transudation which is absorbed in most abundance, the transudation is constantly becoming more concentrated. To illustrate the influence of the respiration on absorption, Dybkowsky has shown that if solutions of colored liquids are injected into the pleural cavity of living dogs, absorption rapidly takes place, but that this does not occur if the animals are killed immediately after the injection. He also found that the rapidity of absorption was increased *pari passu* with the activity of the respiratory movements. Now, in large effusions, when the pleural cavity is almost filled, the aspiratory power of the lungs is lessened; but we must note that the physical signs I alluded to are most marked in cases of encysted effusions, or in those of moderate quantity, of subacute or chronic type, and those undergoing absorption. In these cases, as the lungs do partially expand, the aspiratory influence must be regnant. But, before applying this fact, let me cite some remarks of Dr. Douglass Powell* in a paper entitled "Some Effects of Lung Elasticity in Health and Disease." He has therein demonstrated that enlargement of the chest in pulmonary emphysema is due to the fact that the excentric thoracic resilience is less and less opposed by the elasticity of the lungs as the emphysema increases. He refers to a fact demonstrated by Stokes, that in emphysema the interspaces deepen on inspiration, as, in fact, do all the soft parts. The interspaces are found on a level only in extreme cases, when the pulmonary elasticity is totally destroyed; it is in these cases alone that the tissues bulge on forced expiration. We realize the verity of this excentric thoracic resilience when we consider that it is this power, aided by intercostal muscular action, which maintains the expansion of the chest in quiet respiration, although the action of the diaphragm tends to draw the chest-walls inward. Now, applying these facts to the exceptional physical signs I described in the outset, I incline to think the reason why there is often no obliteration of the intercostal spaces is because the increased density of the fluid in the chest tends to decrease the bulk of the effusion; and the area it occupies is diminished the longer a moderate effusion persists, just as a jelly, when it forms, occupies a slightly smaller area than the fluid from which it was formed. But, more than this, I mentioned an in-and-out movement of the intercostal tissues, occurring during the presence of an effusion in the pleura, noticed over the location of effusion. During the time an effusion persists, the chest-walls are already bulged beyond a physiological position, and from this point, owing to inherent resilience, they tend outward at each inspiration; but the lung-elasticity is abrogated to a varying degree by the compression of the pulmonary tissues by the effusion. Thus it comes to pass that the state of the chest-walls resembles their condition in moderate emphysema; consequently, the pulmonary intercostal tissues are depressed on inspiration, and tend to puff out or return to their morbid physiological state during expiration, just as these tissues act in emphysema of the lungs. I incline to think this explanation adequate, when the state of the effusion and the variety of case in which this phenomenon exhibits itself are considered; for it must be remembered that this movement occurs when there is not enough movement of the thoracic walls to invite the action of the intercostal tissues.

There are two other explanations of the movement of the intercostal tissues during respiration worthy of notice,—viz., in the first place, the union of the pulmonary and costal pleura by adhesions; but the retraction of the tissues in this case would occur during expiration, not inspiration. More than this, I have proved by post-mortem to my classes that adhesions were not present in cases in which, during life, we had noticed pronounced movement. The tissues may retract in inspiration, in cases of pressure on some portion of the bronchial tree; but this pressure is, of course, readily determined. The greater enlargement of the non-affected side is to be explained, as I believe, by the fact that the vicariously-dilated lung-tissue has not sufficient elasticity to oppose the excentric resiliency of the chest-walls. On the affected side, the accumulation of fluid gives a more rotund appearance to the chest-walls; but, by measurement, the circumference is frequently less than the healthy side, although

* Medico-Chirurgical Transactions, vol. lix.

effusion is present; and this retraction is aided by the tendency of the chest-walls to retract, if unsupported from *within*.

Before closing this part of the subject, let me express the concurrence of my clinical experience with that of Dr. James in the statement that there is a very close association between empyema and increased circumference of the chest, and bulging of the intercostal spaces of the affected side; and, with him, I have observed in these cases that there is sometimes a unilateral œdema of the corresponding side of the trunk. He remarks, "In empyema, these signs are due to the more acute pleural inflammation, producing at the same time a greater amount of paralysis, or, possibly, inflammatory alterations, in the underlying intercostal tissues; and thus occurs greater intra-pleural tension through diminished absorption, resulting from an interference with the respiratory movements. The lymph-circulation in the intercostal spaces is dependent on the proper movements of the intercostal muscles, just as the circulation in the diaphragm is dependent on its movements. In this way, the lymphatic circulation is doubly disabled."

Yet, while concurring in the main, I think that the above condition of the interspaces may also indicate an effusion attended by serious structural alterations in the pleura, without the formation of pus, or a hemorrhagic effusion. I have twice found this sign present in cases of hemorrhagic effusion, as proved by paracentesis, so that we may not expect a simple serous effusion if the œdema, etc., is present.

As a sign of some value in empyema guiding us to the selection of a suitable spot for the operation of paracentesis, in cases of encysted effusion, I would mention a study of the vocal resonance. In these cases the vocal resonance is apt to be quite distinct all over the chest-surface, possibly because of the presence of the adhesions and thickened pleural tissues favoring conduction. I usually select a spot where the vocal resonance is more muffled. Testimony relative to the vocal resonance in these cases is somewhat various. The writer in the *Edinburgh Journal* attributes the increased vocal resonance above the line of a pleural effusion, not to condensation of the lung above the fluid, but because the waves of sound transmitted through the bronchial tubes to the effusion are reflected upward, and the ear appreciates the resonance physiologically diffused over the entire thoracic cavity. This increased resonance, he says, can be heard at any part of the chest above the effusion, in which he differs from Skoda, who locates it at the lower angle of the scapulæ, near the large bronchi, near the vertebræ, and above or below this line. Walsh agrees, but says it can be heard anteriorly above the effusion. Guttmann declares the clear bronchial vocal resonance is only heard where the dense lung-tissue touches the chest, usually between the vertebral column and the scapulæ. I am sure we hear it both anteriorly and posteriorly, as Walsh expresses it; but I would invoke especial notice to the fact that it is also often so distinctly heard over the effusion that the element of distance, or the muffled quality of the sound, is the only element to enable us to make correct inferences.

Pursuing my theme,—viz., clinical investigation,—I would next allude to what I would style the logical approach to the study of the fundamental evidence in the diagnosis of aortic aneurism. I feel that my experience of seven years' unremitting study in the Philadelphia Hospital, during which time I have noted sixty-nine cases of aortic aneurism and seen many cases not noted, entitles me to express an opinion as to the method of clinical study which has been most helpful to me. The various writers on physical diagnosis have always laid great emphasis on the various murmurs which are familiar to us under the synonyme "bruits." When these typical murmurs are present, of course the evidence is most materially strengthened, and, indeed, is often rendered conclusive. But many cases of aneurismal enlargement should, if possible, be diagnosticated in their incipiency, before the enlargement of the aorta, whether by sacculation or dilatation, presents the physical conditions for the development of murmur or a typical bruit. I exhibit to the Society some typical specimens to illustrate my proposition that bruit may be much modified, or absent, although decided arterial lesions may be present. The aneurismal sacs in two of the cases are completely filled, in one case by laminated clot, in the other case by a ball-shaped, non-laminated clot, so that very little or no blood could enter or leave the sacs, but flowed through an aorta of which the diameter was nearly normal. In one case

the tumor was so superficial that pressure upon it undoubtedly influenced the lumen of the aorta, and so murmur could be developed not present under ordinary conditions; but in neither was there any constant bruit or murmur, and yet in both these instances death resulted immediately from the presence of these enlargements. In the third specimen—viz., an aneurism of the trunk of the cœliac axis—the orifice communicating with the aorta is merely a button-hole slit sufficiently large to admit of the passage of a medium-sized almond, the orifice leading from the aorta into the sac being the dilated cœliac vessel. The point I wish to urge in connection with this specimen is that such an opening from the calibre of the aorta into an aneurism may permit so little blood to enter or leave the sac that no bruit character is imparted to the murmur, and a murmur, if present, may be trifling.

As a second illustration of my argument, I would invite a mental review of the many associated minor evidences (so called because not including bruit) of aneurism, as detailed in reports of clinical cases. I am at a loss how to condense this part of the subject into the limits proper on this occasion. Let me merely cite, as representative of many, two cases reported in the *Medical Times and Gazette*, January 31, 1880, under the care of Dr. Broadbent. In one of these cases, post-mortem revealed an aneurism "as large as a hen's egg, its anterior surface firmly adherent to the sternum, its posterior portion to the trachea; it contained some firm laminated clot, with considerable disease of the rest of the arch of the aorta and of the thoracic part of the vessel. . . . The indications of aneurism were obscure; the sac was not large enough to give rise to extensive dulness on percussion, the only evidence being the compression of the left innominate vein, producing engorgement of superficial veins on that side, and pulsatile movement of the trachea and larynx." Yet notice as I again quote from the history: "there was tenderness with decided wincing on percussion of the chest, especially on the sternum and epigastrium, with pain in the upper interscapular region." I note that this pain continued as a marked symptom till the death of the patient. The pain was increased by exertion, attended by dry cough (meaning pressure) and a throbbing feeling at the mid-sternum when he walked. Further, "food seemed to stick in the root of the neck, as though a round, hard ball was in the œsophagus, and often it would be returned just as it was when swallowed. There was loss of flesh; depreciation of nutrition had been continuous; there was some difference in the radial pulses, the right being weaker than the left when the arms were raised above the head." His family history embraced the following facts: mother died of cancer; patient had suffered from rheumatic fever, and had lived a life involving severe tests of his arterial system. "He had been a heavy beer-drinker, and had formerly a good deal of saddle-work in connection with stag-hounds." In this case the diagnosis was not made certain, apparently because a murmur was not present.

An analysis of a second case shows antecedents of patient to have been good, but his occupation was that of a coal-heaver; age, 30. Symptoms were, pain running down right arm, then cough, then swelling near the right shoulder, under the clavicle; also dyspnœa, which became extreme on exertion; moreover, effort increased the gravity of all the symptoms; at times the breathing became stridulous. There was cough, which increased relatively with the increase of the swelling near the shoulder; there was continued loss of flesh, but he retained a fair appetite; pulse on right side preceded the left; the left pulse and left carotid pulsation were very feeble. There was visible pulsation on the right side, extending over an area of two or three inches in front of the chest, just to the right of the median line, causing some heaving upward of the sternal end of the clavicle; but no bruit could be heard at any time while the case was under observation. Yet at the time there was no difficulty in making the diagnosis, because the associated symptoms were so unequivocal; but I read, "when the patient left the hospital, the symptoms had so much ameliorated, the diagnosis would have been difficult for a person seeing the patient for the first time."

One case more, from my own notebook. Patient 26 years old; previous history of syphilis; occupation, shoemaker. His work commenced as an apprentice in his fourteenth year; without intermission he had worked at his trade ever since, excepting for three years in which he per-

formed laboring work. The trade of shoemaking compelled him to hold a boot or board against his chest while working. He entered the hospital for acute rheumatism. Examination of the heart revealed no murmur, but a blowing systolic murmur could be loudly heard in the arteries of the neck, and down the aorta posteriorly. Anteriorly it is best localized at the junction of the left second costal cartilage with the sternum. The pulse in right radial artery much fuller than the left, and with a perfectly well marked trip-hammer or Corrigan pulse-quality. There was very slight dulness over the upper left border of the sternum; slight pain on pressure at this point. In this case, as in most others, these obscure phenomena were more thoroughly appreciated, and the diagnosis of aneurism made with greater certainty, by an analysis of the evidence in the following sequence. Let the mind be imbued by the belief that aneurismal tumors are always associated with or preceded by a diseased condition of the contiguous layers of the internal and middle coats of the vessel, a tissue-growth terminating in degeneration, which, by impairing the elasticity and contractility of the walls of the vessel, allows of their expansion and dilatation even under the tension of the normal arterial blood-pressure, or this abnormally increased by any cause, such as occupation, which acts as a fostering agent to the seeds already sown by the structural changes. In the second place, I believe that the structural change is in association in a major number of instances with syphilis, and in the order named with the other causes of endo-arteritis (atheroma),—viz., intemperance, Bright's diseases, and rheumatism.

In regard to the influence of syphilis, I have drawn my conclusions from observations in the Philadelphia and University Hospitals. In the former institution I have found a distinct or probable history of syphilis in fifty-five out of my sixty-nine cases. In the latter hospital all the cases to which I have had access in two years—some five or six in number—were associated with a syphilitic history. In a paper on aortic aneurism in the English army* the statement is made that, out of thirty-four cases occurring in the Royal Victoria Hospital, Netley, seventeen had a distinct and five a probable syphilitic history; three of associated syphilis or extreme indulgence in alcohol; two with well-marked rheumatic diathesis associated with acute manifestations; and only six without report as to systemic condition. The same writer states that, out of one hundred and seventeen cases, 46.1 per cent. of the cases gave undoubted syphilitic history, 6.8 per cent. more a probable history of syphilis; 21.3 per cent. occurred in phthisical subjects, 5.9 per cent. with heart-disease, 5.7 per cent. with various diseases, 14.2 per cent. without record as to constitutional state.

Ziemssen states that aneurism is eleven times more frequent in the English army than in civil life. The former writer believes army life the equivalent to a statement "laborious life," and that this acts as an exciting cause second to the predisposing causes cited: so that our first step, in my estimation, is one in the direction of etiology. (2) In the second place, study carefully the pressure-symptoms in view of the already-determined etiology: this will alone be usually sufficient to enable us to differentiate aneurismal pressure-symptoms from other tumors, even though murmur be absent. Mistakes in discrimination between the pressure-symptoms of morbid growths can thus be often avoided. For example, the causes of aneurism lead to its development in daily life. Chiefly it occurs between the ages of twenty-six and forty years, after which, if blood-vessel lesion occur, it will oftener be of the variety known as equable dilatation of the aortic coats,—since atheroma in these cases is not so apt to be inflammatory as due to a prior fatty degeneration of the aortic tissues. Time will fail me to allude in detail to these symptoms; but I am sure that pain of a persistent character, mitigated by changes of attitude, indicating that the pain is of mechanical origin, and that change of posture will remove the pressure from the tissues,—this sort of pain is a cardinal pressure-symptom, which must be early sought out and recognized. For example, in the cases cited, the pain as a pressure-symptom was manifest in all, more or less pronouncedly, and the associated symptoms, when correlated on this method, point distinctly in one direction, whereas they might otherwise be ignored, or not given sufficient importance to be of value. Careful percussion of the sternal region will often be helpful. Over this bone we normally find resonance, but by percussion, particu-

* Medico-Chirurgical Transactions for 1876.

larly if made during the forced expiration, when the lungs are separated from the contiguous aorta, slightly impaired resonance can be demonstrated over the aortic tract, if aortic enlargement exists. Questions as to the value of murmur are, I think, adjudicated by the axiom that murmurs are heard with maximum intensity at that portion of the circulatory tract where the cavities in which the murmurs are generated approach closest the chest-surface. Thus a murmur becomes strikingly indicative of aortic lesion when heard with maximum or equal loudness over that vessel. As the outcome of my special study, I believe that when a murmur is prolonged and systolic it indicates a simple dilatation of the aorta, or that the tumor connects with the aorta by a very small opening, as typified in the aneurism of the cœliac axis which I cited in the early part of this paper, or else that the tumor is filled with clots of fibrin. The latter point is confirmed if the murmur is more muffled than usually noted in aneurisms containing blood, which are relatively equally superficially or deeply situated.

There is one symptom to which I would like to direct your special attention, as I have occasionally observed it as indicative of aortic enlargement,—viz., the Corrigan pulse without aortic regurgitation. In an elaborate paper Dr. Galabin* has shown that this pulse may exist without aortic regurgitation, as an exaggeration of the normal pulse brought about by relaxed arterial tension; and he cites many sphygmographic tracings to illustrate his position. I have not noticed a typical Corrigan pulse, except in aortic regurgitation, or a state of aortic enlargement, probably dilatation. I say "probably," because the cases are still living. I can understand that in an enlarged atheromatous aorta the recoil of the blood after the cardiac systole may be as marked as in cases of aortic regurgitation; for the blood is almost always powerfully propelled by an hypertrophied ventricle (though cardiac hypertrophy is not necessary to develop this pulse); but, as the vessel is above normal size, the volume of blood is not sufficient to distend the vessel and develop a gradual arterial systole to propel it forward, but the aortic recoil is abrupt, and the jerking pulse is the consequence. If the crasis of the blood is impaired, as in anæmia, there may be an intensified Corrigan pulse; but I have not noted the peculiar characteristics of the Corrigan pulse in simple anæmia, or in cases of relaxed arterial tension.

Finally, then, in regard to the special symptomatology of aortic aneurism, each case is a special study, and I am well aware that the palm of successful diagnosis will most frequently reward the observer who includes the sum of the evidence of the symptomatology in his judgment. But, by the method of study I suggest, the associated symptoms of aneurism are brought into relief, and under-estimation avoided. The importance of accurate diagnosis cannot be over-estimated. "To know our enemy is, if not 'half the battle,' at least a most important part of it."

In dealing with disease, accuracy in diagnosis is only second in importance to therapeutics, the science of therapeutics being based upon the tripod of physiological experimentation, clinical observation, and comparison, combined with pathological research.

February 23, 1881.

* Medico-Chirurgical Transactions for 1876.

ETHYLENE BICHLORIDE AS AN ANÆSTHETIC AGENT; WITH A CONSIDERATION OF ETHYLENE METHYLETHYLATE, ETHYLENE ETHYLATE, ETHYL NITRATE, AND ETHYLIDENE BICHLORIDE.

BY EDWARD T. REICHERT, M.D.

(Continued from page 492.)

THE Pulse.—The pulse-rate is invariably and decidedly increased, even in the most profound narcosis, and not until near death does it approach or fall below the normal, as the following records will show, which have been copied from kymographion tracings:

Exp. I. (*October* 5, 1880).—*Rabbit.*

Time. M. Sec.	Pulse in ten sec.	Remarks.
1.	37	
.05		Commenced inhalation by Woulfe bottle. The animal was previously curarized, and artificial respiration was resorted to, the apparatus being connected with the Woulfe bottle.
.15	37	
.55	38	
2.35	46	
3.15	48	
.55	45	

Time. M. Sec.	Pulse in ten sec.	Remarks.
4.35	48	Anæsthetization complete. Maximum increase 11, or 29 per cent.

Exp. II. (*October* 6, 1880).—*Rabbit.*

Time. M. Sec.	Pulse in ten sec.	Remarks.
1.	45	
		Commenced inhalation as previously on an animal similarly rendered immovable.
.25	46	
.45	45	
2.05	47	
.25	48	
.45	58	
3.05	53	Animal anæsthetized.
.25	55	
.45	61	
4.05	54	
.25	47	
.45	54	
5.05	52	Maximum rise 16, or 35 per cent.

Exp. III. (*October* 7, 1880).—*Rabbit.*

Time. M. Sec.	Pulse in ten sec.	Remarks.
1.	33	
.05		Commenced inhalation with the use of the cone of muslin, it being held over the tracheal tube.
.20	37	
2.	38	
.40	45	
3.20	42	
4.		Added more ethylene to inhaler.
.40	48	
5.20	48	
6.	47	Respirations ceased.
.40	47	
7.20	45	
8.	47	Respirations commenced, but are shallow.
.40	44	
9.	46	Respirations became slower and deeper, and finally ceased. The heart continued beating for at least four minutes, and gradually ceased. Maximum increase 15, or 45 per cent.

Exp. IV. (*October* 9, 1880).—*Rabbit.*

Time. M. Sec.	Pulse in ten sec.	Remarks.
1.	36	
.03		Commenced inhalation by the use of the linen cone.
.07		
.32	39	
.42	39	Arterial pressure falling slightly.
2.07	49	Arterial pressure rising slightly.
.27	46	The arterial pressure slowly rising; the pulse-curves are about one-third the height of the normal; the respirations are scarcely perceptible.
.47	46	Arterial pressure a little lowered, and equalling about seven-eighths of the normal.
3.07	48	
.27	46	Arterial pressure rising slightly.
.47	46	
4.07	48	Arterial pressure falling, and equalling about three-fourths of the normal.
.27	45	
.47	50	Arterial pressure falling slightly.
5.07	54	
.47	45	
6.07	46	
.27	48	Arterial pressure falling slightly.
.47	44	Arterial pressure falling, and equalling about five-sevenths of the normal.
7.		Added more ethylene to inhaler.
.07	46	
10.	45	
.20	46	
.40	46	
11.	46	
.20	45	
.55	46	
.58		Added more ethylene to inhaler.
12.15	46	
.35	46	
.55	46	
13.15	46	
.40	45	
15.	46	
17.	43	
20.	43	
.20	43	
.30		Added more ethylene to inhaler.
.40	45	
21.	50	
.20	48	
22.15	45	
.35	42	
.55	47	
23.15	45	
.35	43	Arterial pressure one-half of the normal.
24.15	43	
25.35	40	
26.05	42	
.25	47	
.45	42	
27.05	43	

Time. M. Sec.	Pulse in ten sec.	Remarks.
.25	42	Arterial pressure three-eighths of the normal. Maximum increase 18, or 50 per cent.

At the time of the conclusion of this record the pulse-curves had become so small as to be indistinguishable, and the tracing made by the marker was but a mere streak. When the fingers were placed on the chest of the animal, only a faint movement of the heart was perceptible, and the action of the viscus was more like tremors than distinct pulsations. The respirations at this time, if they were present at all, were so shallow that they were indiscernible.

The animal was allowed to remain undisturbed for about two minutes, and when a further examination was made the movements of the heart were found to be so feeble as to be almost inappreciable, and not the slightest respiratory movements were detected. The heart still possessing some vitality, it was thought that by attaching the artificial respiration-apparatus to the tracheal tube the respirations might possibly be restored and the moribund animal revivified. This was done, and after the lapse of two minutes not the least evidences of respiratory movements or of a restoration of the vitality of the almost paralyzed heart were present, and, as all signs of life save the almost imperceptible movements of the heart were gone, the animal was given up as being of no further use, and the artificial respiration-apparatus detached. In a few moments, however, it occurred to the writer that as this drug was probably both a cardiac and a respiratory depressant in toxic amounts, and that, as previously stated, death invariably occurred from a paralysis of the respiratory movements, we would have an invaluable antidote and revivifier in the nitrites if what the writer asserted in a recent article* was true, which was to the effect that the nitrites, in small or moderate doses, were powerful respiratory and cardiac stimulants, and, although the long-continued absence of respiratory movements and the almost complete extinction of all the vital functions were points decidedly against a successful result of such an experiment, yet, while a negative result would not therefore materially disprove the above assertion, the opposite result would be strong, if not almost conclusive, testimony in its favor. The amyl nitrite was quickly obtained, and in a few moments as many drops (probably five) were quickly injected into the tracheal tube, and the artificial respiration-apparatus again attached, so that the vapor of the nitrite would be forced into the lungs and thus become absorbed. In a few moments, to my intense gratification, the almost paralyzed heart seemed invested with a new life, and every moment its lost powers were being rapidly restored, the pulse-curves gradually increasing in height and volume, and in a less time than it takes to pen these notes were equal to the normal, and the heart was pulsating at the rate of forty beats in ten seconds, or four pulsations above the normal. The respirations did not recur for at least two minutes, and were then both shallow and slow, but in a few moments they had become so rapidly restored that they occurred at the rate of thirty-six per minute; two minutes later they were twenty-two per minute; at the seventh minute they were again thirty-six and the pulse in ten seconds forty-two; at the eleventh minute they were forty-two; at the fifteenth minute they were fifty-one and the pulse in ten seconds forty-two. Several drops of the nitrite were twice injected into the tracheal tube since the first recurrence of respiratory movements.

At the commencement of the inhalation of the amyl nitrite the arterial pressure was about one-third of the normal, and at the end of fifteen minutes it had not materially changed either one way or the other, although slightly lowered, which was quite contrary to what might be expected, since there was an augmentation of the frequency as well as of the force of the heart; but when it is remembered that the nitrites cause such intense vaso-motor dilatation, and that, notwithstanding the fact of their being decided cardiac stimulants, they cause a decided lowering of the blood-pressure in normal animals, the explanation of this apparent anomaly is evident. That we have in the nitrites an invaluable class of physiological antidotes for this compound is so clearly proven by the above as to need no further comment.

To return to the results of the preceding

* American Journal of the Medical Sciences, July, 1880, p. 158.

four experiments made on normal animals. It will be noticed that a decided increase in the pulse-rate invariably occurs, and that this increase continues far above the normal until immediately before death (Exp. III.), when it gradually failed, the increase being, respectively, 29, 35, 45, and 50 per cent., and the average about 40 per cent. The pulse-curves were diminished (Exp. IV.), and the arterial pressure decidedly lowered. In order to determine the *modus operandi* of this increased pulse-rate, it was first sought to decide whether the vagi apparatus was concerned: so the following experiment was made, in which both vagi nerves were severed, a tracheal tube was inserted, and the ethylene given by inhalation from a muslin cone, with the following result:

Exp. V. (*October* 13, 1880).—*Rabbit.*

Time. M. Sec.	Pulse in ten sec.	Remarks.
		Cut the pneumogastric nerves.
1.	35	
.03		Commenced inhalation.
.10	35	Arterial pressure reduced about one-tenth of the normal.
.30	34	
.50	34	
2.10	37	Pressure rose since 1.50, and is now about one-tenth of the normal above it. The respirations had now become very frequent, and for one minute the pulse-curves were not traced, only the respiratory curves. The respirations, which were normally seven in twenty seconds, are now increased to thirty-seven. The arterial pressure falls gradually until 3.15, when it reaches one-tenth below the normal; it then arose slightly, followed by a fall to the former point.
3.20	42	Pressure one-tenth below the normal, and gradually declining.
.40	42	
4.	42	
.35	42	
.55	42	
5.15	50	
.35	52	
.55	53	
6.30	46	Pressure one-fourth below the normal.
.50	45	
7.10	45	
.30	44	
.50	45	
8.25	46	
.45	45	
9.05	46	Pressure about five-twelfths below the normal.
.25	46	
.45	47	
13.	45	
.20	46	
.30		Added more ethylene to inhaler.
.40	44	
14.	45	
.20	43	
.32		Respirations ceased.
.40	38	
15.	29	
.35	26	
16.15	27	
.55	28	
17.25	26	
.45	27	Since the fifteenth minute the pressure has gradually declined, and is now about one-fourth of the normal.
.55		The cardiac pulsations are so feeble as to be imperceptible, and at 18.25 the pressure fell to zero. Maximum rise 18, or 51 per cent.

It will be noticed that the result in this last experiment is identical with those made on normal animals, with the exception that a rise of the arterial pressure occurred which went above the normal. The pulse-rate was increased 51 per cent., which was as much as the greatest increase in any of the preceding observations, and, although the pulse-curves were not referred to in the preceding remarks, yet the same diminution of their size was apparent. It is therefore evident that the increased pulse-rate occurs independently of the pneumogastric nerves, and that it must be due either to a direct cardiac action or to a stimulation of the accelerator nerves. The determination of this point is satisfactorily accomplished by making, in the same animal, a combined section of both the cervical spinal cord and vagi nerves (in the section of the former the accelerator nerves are severed before their exit from the cord). This operation has been done in the two following experiments:

Exp. VI. (*October* 12, 1880).—*Rabbit.*

Time. M. Sec.	Pulse in ten sec.	Remarks.
1.	41	
.10		Commenced inhalation by Woulfe bottle.
.30	38	
.50	38	
2.40	35	

Time. M. Sec.	Pulse in ten sec.	Remarks.
3.	34	
.20	36	
.40	40	
4.05	40	
5.	37	
7.	24	
9.	21	The pulse continues failing.

Exp. VII. (*October* 14, 1880).—*Rabbit.*

Time. M. Sec.	Pulse in ten sec.	Remarks.
1.	39	
.10		Commenced inhalation by Woulfe bottle.
.20	32	
.40	30	Pressure has fallen one-half of the normal, and is still declining.
2.15	35	
.35	27	
.55	20	
3.15	20	
.40	34	
4.	34	
.20	34	Pressure about one-third of the normal.

These results being directly the reverse of what has hitherto been recorded, it is very evident that the increased pulse-rate such as occurs in normal animals is dependent upon a stimulation of the accelerator nerves. Were it dependent upon the heart, the increase would still be apparent in animals operated on like the above, but which is not the result here; and it is an interesting fact to note that instead of the increase we have a diminution below the normal from the first; and the fact that the heart is isolated from the reception of any centric influences shows that the decline of the pulse is due to a depression of the heart itself. The consentaneous occurrence of a diminished pulse-rate, diminished pulse-curves, and diminution of arterial pressure decidedly indicates cardiac depression, and is undoubtedly due to this, unless it be the diminution of arterial pressure, which may possibly, to a considerable extent, be due to vaso-motor dilatation.

A decided increase of the pulse-rate occurring in normal animals or in those having the accelerator nerves intact, and a diminution occurring in those in which the nervous connections of the heart were severed, is an exceedingly interesting point, and shows that the heart in normal animals is affected consentaneously in a dual manner, and that these two forces are in constant antagonism, the one tending to cause an increase through a stimulation of the accelerator nerves, and the other a diminution by a direct paralyzant action on the heart. And it is evident that the effects of the stimulation of the accelerator nerves are more intense than those of the direct action on the heart: hence we have the increase. In two dogs, one in which the fibres of the accelerator nerves were cut a little below the medulla oblongata, and to which intravenous injections were given, the results, as the following records show, are confirmatory of what has already been stated.

Exp. VIII.—Dog.

Time. M. Sec.	Pulse in ten sec.	Remarks.
1.	16	
.10		Injected thirty minims intravenously.
.22		The blood-pressure fell rapidly to one-half of the normal; deep respirations and struggles sent it up to normal twelve seconds later; it then commenced to decline, reaching one-half of the normal at thirteen seconds later; and then commenced to rise gradually, reaching to within one-eighth of the normal at the fourth minute.
.40	23	
2.20	23	
.40	23	
3.	25	
.20	25	
.40	23	
4.20	22	
.40	23	
5.	22	
.20	21	
.40	19	
6.	20	
.20	19	
.40	20	Maximum increase 9, or 56 per cent.

Exp. IX.—Dog.

Time. M. Sec.	Pulse in ten sec.	Remarks.
1.	25	Cut the spinal cord a little below the medulla.
.05		Injected thirty minims intravenously.
.20	25	
2.	23	
.10	22	
.20	23	
.30	21	
4.	20	
.20	21	
.45	22	

(To be continued.)

EXPERT MEDICAL TESTIMONY.

BY C. H. BOARDMAN, M.D.

TO the evils inseparably associated with the existing system of procuring so-called expert evidence which are set forth in Dr. Reese's thoughtful paper in a recent number of the *Medical Times* might be added one which, while less calculated than its congeners to bring the science of medicine into disrepute, is potent in defeating the very *raison d'être* of such evidence.

The physician whose services are desired is sought by the counsel for either of the parties to the suit, who lays before him a purely *ex parte* statement and requests thereupon an expression of his opinion. The narrative is plausible, and, whether inadvertently or otherwise, there is usually no reference to modifying or ameliorating circumstances, a knowledge of which might have no little weight in determining the witness (*in posse*) as to the proper course to be pursued. He is naturally impressed by the story thus forcibly presented, and, unaccustomed to weighing evidence,—unable, indeed, to weigh it, since he holds but one-half of the scales,—he becomes a victim to that scourge of the human race, hasty generalization, and straightway appears in court, not as an unbiassed witness whose function it should be to decide scientific questions beyond the ken of the jury, but as an advocate, pure and simple, who desires chiefly that the cause for which he appears shall triumph, and who, becoming heated as the fires of cross-examination grow hotter, is very apt insensibly to color his evidence that it may correspond with the mental verdict at which he has long since arrived.

The inevitable result of a system which brings forth such fruits is seen in the present status of expert evidence in our courts, where it is no uncommon thing for juries to throw out the whole in finding their verdict, paying no more attention to it than though it had never been. That this should be the case is a blot upon the fair fame of our profession, and it is felt as a reproach and a disgrace, especially by those physicians who are practically conversant with forensic medicine, and who are rightly jealous for the good name and reputation of their chosen calling.

The existence of grave abuses in our system of medical jurisprudence is very generally recognized by physicians; it furnishes a text for numerous threnodies in the Transactions of our various State medical societies; but as yet no determined or systematic effort has been made to remedy the evil. If the proper remedy can be devised, then, doubtless, energetic concert of action will result in its adoption, and we shall rid ourselves of the opprobrium which, in this respect, now rests upon us.

It has long seemed to the writer that the ideal system is that to which reference is made by Dr. Reese,—viz., the Imperial Commission of Prussia, of which Casper was so long the honored chief; but, at the same time, it is perhaps a question whether such an organization is practicable in this country, and the plan proposed by Dr. Reese is more in harmony with the genius of our institutions. It may be, however, that a measure which the Legislature of Minnesota was solicited to adopt at its recent session would be still more acceptable, and, if not productive of as good results, it might provoke less opposition and prepare the way for subsequent improvements.

The proposition as urged upon the Judiciary Committee of the House was as follows: Counsel for both parties shall prepare lists of physicians whom they are willing shall be called as witnesses, and from these lists the court shall select a certain number (say three or five), who, subpœnaed by the State, shall, after hearing all the evidence, express their opinion, having a previous consultation, if so desired. The defendant, of course, retains the right to summon his own experts, if he wishes to do so.

It is not claimed that this scheme is the best that can be devised, or that it is free from objections, but it is a vast improvement upon the method now in vogue, and, as said before, it is believed that the attempt to secure its adoption would arouse but little opposition, while a determined hostility would probably be arrayed against a more radical measure of reform. It does not provide, as does Dr. Reese's plan, for a State toxicologist, but, if it be thought best, such an official might be appointed, thus combining Dr. Reese's scheme with that proposed in this communication.

If our various State and County organizations will but agree upon some practicable substitute for the absurd and anom-

alous proceedings now relied upon in our courts, it cannot be doubted that an intelligent and combined effort will secure its adoption, since a reform so greatly needed would be welcomed alike by the members of the professions of law and medicine.

ST. PAUL, MINNESOTA.

OVERDOSING AND GIVING DISAGREEABLE MEDICINES UNNECESSARILY.

BY WALTER C. STILLWELL, PH.G., M.D.

A SHORT time since, in conversation with a druggist who compounds prescriptions from a great number of different physicians, he spoke of the large doses which some of them gave, and, to illustrate, he got down his prescription-file for that day and showed me a recipe for powders of cubebs, alum, and cinnamon so large that one of them filled twice a tablespoon heaping full, and when mixed in a half-glass (four ounces) of water it made a dose that almost any human being would rebel against. Now, as two or three drops of the oil of cubebs and one-tenth of a drop of that of cinnamon would represent the amount of the respective remedies, a pleasant instead of an offensive compound could readily have been made.

Here is the latest treatment for tapeworm, reported in a recent number of a medical journal,* and noticed in the *Times* (No. 341), and, as it has a bearing upon the subject, I repeat the main features of the treatment: "The patient takes a dose of castor oil, then milk diet for twenty-four hours, and no other food except a salad of salt herring, onions, and garlic; then he takes a mixture of a decoction of pomegranate-root, ethereal extract of male fern, sulphuric ether, fluid extract of valerian, croton oil, and honey." At this period of the treatment the patient can take more herrings and onions, if he wants them. "As soon as the mixture produces colic, an ounce of castor oil is administered hourly until the worm is expelled."

If the patient lives through all this, and the worm succeeds in clinging to the mucous coat of the intestines after passing through such an ordeal, it deserves to remain there unmolested the remainder of its existence. It is such barbarous treatment as the foregoing which sends patients to homœopaths.

A prescription was presented at a drug-store to be compounded, not long ago, containing a number of ingredients, among them a preparation of iron and also a vegetable astringent. It was compounded and delivered to the patient; he immediately returned it to the store, with the remark that "he did not want ink." The druggist referred him to the physician who prescribed it; he told the patient that "if he prescribed ink it was his place to take ink;" and he did, and when he had any writing to do he would use his medicine as a writing-fluid, and when his inkstand wanted replenishing he would always get his prescription renewed.

I am satisfied that the followers of Hahnemann get many patients which they would not otherwise by the regular practitioners dosing children with disgusting medicines, for how often do you hear mothers say that they consider homœopathic medicine is "good for children"! I do not wish to be understood as advocating trifling with disease by using mild means merely to please the patient and gain credit for giving agreeable medicines, for I believe in administering any drug, no matter what is its character, when there is urgent necessity for it.

I think this subject is not sufficiently appreciated by physicians generally, as there is certainly room for great improvement in the preparation and the proper combining of remedies, so as to suit the patient's palate as well as his system.

I am accustomed to have made up at a drug-store a recipe which could be called either a syrup or an elixir; I give it for what it is worth. A half-fluidounce of the compound added to a four-ounce mixture containing disagreeable-tasting medicines, such as bromide and iodide of potassium, bichlorate of sodium or potassium, quiniæ sulph., and many others, will cover a multitude of imperfections in a prescription as regards color, taste, etc.

This is the formula:

℞ Aurantium cortex recens, i;
Sem. anisi (cont.), ℥ij;
Sem. cardam. (cont.), ℥i;
Sem. fœniculi " ℥ij;
Coccus cacti " ℥i;
Sacch. albæ, ℥xxxij;
Sp. vini rect., f℥iv;
Aquæ, Ojss.

* New York Medical Record, November 20, 1880.

Macerate all of the ingredients except the sugar in the alcohol and water for four days, filter, and dissolve the sugar by the aid of gentle heat, and strain it while warm.

TRANSLATIONS.

EXPERIMENTAL RESEARCHES IN THE ABSORPTION AND ACTION OF METALLIC MERCURY.—Dr. Paul Fürbringer (*Virchow's Archiv*, Bd. lxxxii. p. 490) says that two questions remain to be solved with reference to this subject. 1. Does the metallic mercury of gray ointment penetrate as such into the system in ordinary inunction? 2. Is the metal oxidized by contact with the juices of the system?—that is, is it changed into an active soluble form? Dr. Fürbringer says that the first of these questions has been answered first affirmatively, then negatively, by successive investigators; the second question has only been investigated in the reagent-glass, and the result transferred to the account of the organism.

In investigating the subject, Dr. Fürbringer divides the first question into three parts, depending upon the method of absorption: (*a*) in the place of application, by mechanical passage of the globules through the skin; (*b*) by breathing the vapor; (*c*) by the penetration of the vapor through the skin.

After giving a thorough examination of the rather contradictory results obtained by previous observers, Dr. Fürbringer details his own careful experiments under these heads, with the conclusions which he has reached, and which are as follows: 1. By inunction with fresh gray ointment (free from oxidized mercury) into the intact skin and mucous membrane the metallic globules are forced into the hair-follicles and sebaceous follicles in the place of application, and, under the influence of the glandular secretion, are changed into a soluble absorbable combination. 2. The mercurial vapor taken in by respiration condenses in a metallic form on the accessible portions of the mucous membranes, and, remaining there, is gradually changed into an absorbable, soluble oxidized compound. On the other hand, neither do the metallic constituents of gray ointment penetrate through the uninjured skin at the point of inunction, nor does the metallic vapor penetrate through mucous membrane or skin to exist as such in the blood. In abraded skin, however, opportunity is given for the passage of metallic mercury into the circulation at the point of inunction by the existence of bleeding points in the skin. So soon as metallic quicksilver comes into contact with the living blood it is changed into a soluble active compound. Apart from this mechanical penetration of metallic quicksilver, the drug can only get into the system as above mentioned by becoming changed into some soluble salt when in contact with some denuded spot. [Fürbringer's results, though in contradiction to those of several investigators of distinction, appear to be founded on such complete and careful experiments as to make it likely that they will influence the present views on the subject of the absorption of metallic mercury.—ED.]

NERVE-STRETCHING—At a recent meeting of the Societé de Biologie (*Le Progrès Méd.*, 1881, p. 217), M. Quinquaud mentioned a case where he had stretched the frontal nerve for supra-orbital neuralgia. A little later one of his colleagues had performed the same operation for epileptiform neuralgia of the face, and also for a supra-orbital neuralgia. The first and third of these operations had been successful, the second less so. But in the two successful cases complete anæsthesia had supervened, which continued up to the present time. On the other hand, in the case of epileptiform neuralgia the anæsthesia following the operation only lasted a few hours. It follows from this that in such operations anæsthesia must follow if the cure is to be permanent. The explanation of the cure in these cases of nerve-stretching has been in dynamic action; but practical knowledge has hitherto been wanting. M. Quinquaud now supplies this lack by experiments upon animals. He has ascertained that when the nerve is stretched, if the cure is to be permanent, persistent anæsthesia must be produced. On the other hand, in cases where anæsthesia has been produced, secondary degeneration can be observed in a considerable number of nerve-tubules. Some show their myeline granular and segmented, others are completely emptied, others are intact. M. Quinquaud concludes that what is required is complete anæsthesia, not by dynamic action, but by anatomical change. In the discussion which followed, M. Dumontpallier remarked that in the case re-

ported by M. Debove and himself, neuralgia was relieved by nerve-stretching, but anæsthesia did not follow. M. Quinquaud replied that in the case of this same patient a recent examination by M. Laborde had shown complete anæsthesia.

Later in the course of the meeting, M. Laborde presented, for M. Marcus, the results of some experiments of the latter on nerve-stretching in the guinea-pig. On the third day after operation, examination showed some nerve-fibres intact, while others were altered with segmentation of the myeline. In the cat the same results were obtained, but more slowly. A curious fact was that the degeneration took place only in the central portion of the nerve: the peripheral portion remained intact. Without taking this result for granted, M. Laborde thought that the effect of the compression sustained by the nerve at the point of traction could be seen in this last result.

Visceral Atrophies consecutive to Inflammation of Serous Membranes.—From a review of a work on this subject by Dr. A. Poulin, in *La France Médicale* (1881, p. 382), we learn that atrophy of the lung may be produced as a result of inflammation of the serous membranes by two somewhat different processes. In most cases the parenchyma of the viscus is compressed by abundant serous effusion. This not being absorbed, a thick neo-membrane covers the visceral pleura and the compressed lung in a sort of husk, preventing its expansion entirely. When finally the serous effusion has disappeared, the lung is incapable of dilating, its atrophy is complete, and the void left between it and the thoracic wall is closed by the contraction of the latter. In rarer cases, when the pleurisy is dry, the two reflections of the pleura become adherent, prevent expansion on the part of the thoracic walls, and thus draw in the thorax, compressing the lungs at the same time. In addition, a "pleurogenetic pneumonia" may be brought about when fibrous bands form in the lung itself.

As regards the liver, atrophy by perihepatitis is rarer, and is sometimes difficult to distinguish from atrophy the result of cirrhosis, which is frequently accompanied by thickening of the serous envelope. In certain cases of chronic peritonitis the thick neo-membranes formed develop over the surface of the liver and mask it entirely. The diminution in the volume of the organ which almost always exists in these cases is due to a complex morbid process: direct compression of the hepatic gland, according to Cruveilhier; propagation of chronic inflammation to the interstitial tissue of the liver, according to Thierfelder; obstruction of the circulation in the narrowed hepatic vessels, according to Murchison and Hilton Fagge. Poulin gives the first place among these causes to compression of the vessels. Superficial cirrhosis by propagation, though it has been demonstrated to exist by numerous observations, appears to exercise a minimal influence.

Plastic Operations on Muscles and Tendons.—Gluck (*Cbl. f. Chir.*, 1881, p. 168; from *Archiv f. Klin. Chir.*), who has succeeded so well in transplanting bits of nerve, has recently transplanted bits of muscle, with and without tendon, also successfully. In a series of researches upon chickens, a bit of muscle the size of a dollar was extracted, and its place filled with muscle from a rabbit, which invariably grew in without difficulty and often showed the muscular structure without change. In a second series of researches in chickens, a bit of the gastrocnemius was cut out, with some tendon attached, and replaced by a somewhat larger piece from the corresponding part of another chicken. This piece, together with its tendon, grew in successfully. Forty days after the operation the new muscle showed its specific action. An energetic process of regeneration only showed itself when the inflammatory reaction was as far as possible eliminated. Where there is decided inflammation, the transplanted portion is more or less changed into a fibrous mass; that is to say, the whole muscle is changed into a semi-membranosus by the plastic operation. This would have to be taken into account in any operation performed upon man.

A Patient's Agreement to Pay Repudiated by Law.—A paralytic Parisian, having injured his ankle, called in Dr. Alphonse Guérin, the well-known surgeon, who attended him, dressing the limb thirty-one times. For this service he sent in to the heirs of the patient (who died shortly after) a bill for 6900 francs,—$40 per visit. The heirs thought $20 per visit enough, and went to law, when the court decided that no agreement could be made between a patient struggling for life and the person he calls in to save him.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, MAY 21, 1881.

PROCEEDINGS OF SOCIETIES.

THE AMERICAN MEDICAL ASSOCIATION.

THE thirty-second annual meeting of the National Association was held in Richmond, Virginia, commencing Tuesday, May 3, and continuing until Friday, May 6, 1881. Nearly five hundred delegates and members were in attendance.

According to the programme, the meeting was convened at eleven o'clock A.M., with prayer by Bishop J. J. Keane, after which Hon. F. W. M. Holliday, Governor of the State, delivered an eloquent address of welcome.

The Committee of Arrangements announced the order of business, as well as the entertainment and invitations from several sources.

The President of the Association, Dr. John T. Hodgen, of St. Louis, then delivered his annual address, in which he referred to the two types of surgeon,—the bold, reckless operator, and the conservative, timid one,—and warned his colleagues against the temptation to perform brilliant operations when the patient's best interests would be furthered by a more tentative course. On the other hand, he urged early interference in proper cases, such as malignant disease, sarcoma of choroid, rodent ulcer, and sympathetic ophthalmia. Various conditions of the body tend to render an operation unsuccessful: previous vigorous health in itself will prevent a patient from patiently bearing confinement; a strumous constitution, long-continued mental strain, anæmia, and wasting disorders, all tend to reduce the powers of recovery. Imperfect knowledge of many pathological states also would prevent the resort to the knife, in the absence of exact information of the state of the system. After referring to the many advances in operative surgery, he concluded by saying that a more perfect animal chemistry, a more thorough histology, and a deeper search into the possibilities of pathological change will doubtless throw many a ray of light into regions where the darkness is now too dense for our vision to penetrate. To these fields coming generations of physicians will surely be attracted, in the faith that, as man advances in knowledge and approaches somewhat nearer to the comprehension of the perfect wisdom which designed the wonderful physical organism through which he is brought into relation with the world around him, he will be enabled to solve more and more of the difficult problems which now perplex and baffle us, and will gradually raise medicine to a position more nearly akin to that now accorded to the exacter sciences.

The address was attentively listened to and warmly applauded. A vote of thanks was passed to Dr. Hodgen, and the paper referred to the Publication Committee.

Dr. Jos. H. Warren, of Boston, chairman of Foreign Delegates appointed at the last meeting, reported attendance upon the British Medical Association at Cambridge, and gave an interesting report of the proceedings at that meeting. In conclusion, he spoke of the *British Medical Journal*, and advocated the establishment of a similar official periodical by the Association.

PROCEEDINGS IN THE SECTIONS.

SECTION I.—*On the Practice of Medicine, Materia Medica, and Physiology.* Dr. Wm. Pepper, Philadelphia, Chairman; Dr. T. A. Ashby, Baltimore, Secretary.

In the absence of the chairman, Dr. Octerlony, of Louisville, occupied the chair.

Dr. W. C. Wile, of Connecticut, read a paper on "Blood-Letting as a Therapeutic Measure in Pneumonia," in which he advocated the free use of the lancet in the early stage, and reported several cases apparently greatly relieved by the venesection.

Dr. J. J. Lynch, of Baltimore, protested against this method of treatment, as the disease runs its course in spite of the bleeding, and the patients recover just as soon without it. When bleeding was common, the mortality of pneumonia was about twenty-five per cent.; now it is scarcely more than four or five per cent. Dr. Whitaker, of Cincinnati, also entered a vigorous protest against this procedure, which he considered as being unjustifiable. Veratrum viride, also recommended by the lecturer, is a profound cardiac sedative, and might do much harm.

Dr. N. S. Davis advocated the treatment, and Dr. S. D. Gross said that it was applicable to the first stage in young, robust subjects, where he considered it to be the great remedy. The subject was still further discussed until the time of adjournment.

SECTION II.—*On Surgery and Anatomy.* Dr. Hunter McGuire, Virginia, Chairman; Dr. Duncan Eve, Tennessee, Secretary.

Dr. Jos. H. Warren, of Boston, exhibited a number of instruments, among which were catheters and bougies with a screw or vermicular point; a modification of Thomson's evacuating tube for the bladder after crushing a stone, or for removing foreign bodies; a uterine probe with a rotary point, a trocar, and a set of sounds for the urethra or uterus on the same principle. Also a serrated herniotome, torsion forceps, a hernia syringe, and a peculiar dissecting-knife.

Drs. Sayre and Gouley, of New York, could

not discover anything in the revolving point to commend its use.

Dr. Wm. A. Byrd, of Quincy, Ill., reported a case of ulceration of the appendix vermiformis, with remarks upon abdominal section in cases of perforation of the bowel. In the discussion, operative interference was strongly recommended.

Dr. James E. Reeves, of West Virginia, exhibited a renal calculus, weighing 480 grains, from a case of pyonephrosis. A number of smaller calculi coexisted, weighing in the aggregate 416 grains.

SECTION III.—*Obstetrics and Diseases of Women.* Dr. James R. Chadwick, Boston, Chairman; Dr. Joseph Tabor Johnson, Washington, Secretary.

Dr. Paul F. Mundé opened the discussion upon vaginal and vagino-abdominal pessaries, and formulated a number of propositions as guides to their use, as follows:

1. Always be sure of the diagnosis, of the nature and degree of the displacement, before resorting to a pessary.

2. Always replace the uterus before applying a pessary, especially in retro-displacements. Preliminary treatment by frequent replacement and straightening the canal with a sound will often be beneficial.

3. Never insert a pessary when there is evidence, by the touch, of acute or recent inflammation of the uterus or adnexa, or when pressure by the finger on the parametrium (where the pessary is to rest) gives decided pain.

4. When the uterus is not replaceable,—that is, when adhesions bind the fundus down,—use great caution and discrimination in deciding whether an attempt should be made and is justified by the symptoms to elevate the fundus by manual or instrumental means, or whether the elevation should first be tried by the gradual elevation of a pessary (this applies only to retro- and latero-versions). If neither is to be recommended, do not introduce a pessary until local alterative and absorbent measures have effected a resolution of the adhesions.

5. Always choose an indestructible instrument, if possible. This does not apply to prolapsus uteri.

6. Always measure and estimate the vagina carefully before choosing a pessary, and be careful to adjust the pessary in every particular (size, curve, width) to that particular case. No two vaginæ are exactly alike.

7. If the vaginal pouch is not sufficiently deep to accommodate a pessary (anterior pouch for ante-displacements; posterior pouch for retro-displacements), defer the attempt to fit a pessary until the pouch has been deepened by daily tamponing with cotton, or by the upward pressure of a Cutter or a Thomas vagino-abdominal supporter. Or the pouch may be gradually deepened by using first a small (slightly curved in retro-displacement) instrument, and gradually increasing its size (or curve) until the desired size and shape for permanency are reached.

8. Never leave a pessary in the vagina which puts the vaginal walls to the stretch, and which does not permit the passage of a finger between it and the wall of the vagina. This does not apply to prolapsus uteri.

9. A vaginal pessary which projects from the vulva is displaced.

10. A pessary which gives pain must at once be replaced by one which is painless.

11. A well-fitting, properly-chosen pessary should not only give no pain, but should be a direct source of comfort to the patient.

12. Always examine a patient on her feet after introducing a pessary, or when it is desired, at her return, to ascertain its efficiency in sustaining the uterus during walking and exertion.

13. Always tell the patient that she has a pessary in her vagina, or she may not return in spite of your directions, and the pessary may remain for years, to her ultimate great discomfort and danger.

14. Always tell the patient to return within a week after the first introduction, in order that the position and working of the pessary may be looked after, and that, if it does not suit, it can be removed and a better one inserted. Tell her that several trials and various instruments may be required before one is found which she can wear permanently. Also let her return for inspection once every four to eight weeks, as the case may require. Tell her that if she fails to do so the pessary may cause ulceration, for which treatment will be needed.

15. Tell the patient that she will need to wear the pessary for months, perhaps years, before a recovery can be expected.

16. Never introduce a pessary which the patient cannot remove herself.

17. Tell the patient to remove the pessary herself if it gives pain, and show her how to do it. When she has removed it, let her present herself at once for examination.

18. Tell the patient to use daily vaginal injections for cleansing purposes. If she notices profuse discharge, add astringents; if the discharge is sanious or purulent, let her come at once, as the pessary has probably caused abrasion.

19. Tell her on moving the pessary to test the result; that the permanence of the result cannot be determined for several days or weeks.

20. Always direct your patients to relieve all superincumbent pressure by a proper support of their skirts. If the displacement be anterior, aid the pessary by an abdominal supra-pubic pad.

All pessaries may be introduced in the knee-chest position when it is desirable or possible to replace the uterus only in that position. A Sims speculum elevates the peri-

neum, the air enters and expands the vagina, and the pessary (chiefly in retroversion and prolapsus) is introduced by touch and sight, and the patient laid over on her left side. For aggravated retroversion and for prolapsus of ovaries or uterus, this position offers many advantages over the left semi-prone decubitus. Care must be taken to remember that the position of the patient is reversed, and that the pessary must be introduced accordingly.

Dr. R. Beverly Cole spoke in favor of the Hodge pessary and his own modification of it with a spring support for retroversion. He also advocated the use of the galvanic stem pessary in the condition of atony. In conclusion, he exhibited a gas cautery for operations upon fungous growths, etc., and demonstrated the method of moulding gutta-percha, previously softened in warm water, so as to make extemporaneous pessaries.

Dr. Albert H. Smith deprecated the indiscriminate use of pessaries; he did not believe in the galvanic action of the stem pessary mentioned, but considered its effects merely mechanical.

A number of other speakers united in discouraging the use of stem pessaries.

SECTION V.—*On Ophthalmology, Otology, and Laryngology.* Dr. Dudley S. Reynolds, Kentucky, Chairman; Dr. S. M. Burnett, District of Columbia, Secretary.

Dr. W. C. Jarvis, of New York, read a paper on "Nasal Catarrh with Hypertrophy," and advocated transfixion of the hypertrophied portion by curved needles, and its removal by a wire écraseur in preference to the galvano-cautery or the knife. The paper was followed by a general discussion on nasal catarrh and its causes.

Dr. Chisolm, of Baltimore, read a paper on "Conical Cornea," in which a case was reported benefited by tapping with a red-hot needle.

Dr. Little, of Philadelphia, also spoke of a case improved after tapping.

SECTION VI.—*On Diseases of Children.* Dr. A. Jacobi, of New York, Chairman; Dr. T. M. Rotch, Boston, Secretary.

A paper was presented by Dr. H. J. Bowditch, of Boston, on "The Relation between Growth and Disease," in which the rate of development was mentioned as throwing light upon the causation and treatment of children's diseases. He advocated frequent weighing of children, a progressive loss of weight indicating the approach of some sickness. The subject is to be considered by the National Board of Health, which will distribute blank cards for statistical information, some of which were exhibited by the lecturer.

Dr. S. C. Busey, of Washington, presented a paper by Dr. White, of Boston, "On some of the Causes of Infantile Eczema, and the Importance of Mechanical Restraint in its Treatment."

Dr. L. D. Bulkley thought that the author had laid too great stress upon the local treatment, and had ignored hygienic and other means. He approved of the disuse of water, but had never been obliged to resort to the mask.

Dr. Busey read a paper on "The Relation of Meteorological Conditions to Diarrhœal Diseases of Children."

Dr. H. O. Marcy exhibited some elastic double canula injection-tubes for irrigation of stomach, rectum, bladder, vagina, etc.

Dr. D. H. Goodwillie, of New York, read a paper, illustrated by means of a model, on the method of preventing thumb-sucking. The treatment recommended consists in breaking up the habit by applying a leather pad to the elbow, preventing the hand from coming to the mouth.

Coexisting nasal catarrh should be treated by douches and the application of powder blown into the nose, proper food, clothing, and rest.

His conclusions were as follows:

(1.) Thumb-sucking is more disastrous to the health of the child than the sucking of the other fingers, for, the thumb once in the mouth, it more readily remains during sleep.

(2.) It interferes with the child's proper rest, which should be continuous and undisturbed, and so becomes a source of nervous irritation and exhaustion.

(3.) It interferes with the natural respiration through the nose, and sets up abnormal conditions.

(4.) It malforms the anterior part of the mouth, and affects future mastication.

SECOND DAY'S PROCEEDINGS.

The amendment to the Code of Ethics, which at the last meeting was made the order of the day for this session, was brought before the Association by the President. The amendment (to Article I., Paragraph 1st) read as follows: "and hence it is considered derogatory to the interests of the public and the honor of the profession for any physician or teacher to aid in the medical teaching or graduation of persons knowing them to be supporters and intended practitioners of some irregular and exclusive system of medicine."

After a motion to table the amendment had been voted down, the subject was laid over until the next morning.

PUBLICATION OF PROCEEDINGS.

Dr. John H. Packard, chairman of the committee to whom the recommendations of the late President's annual address were referred, made an interesting report, concluding with the following resolution:

"*Resolved*, That the President be authorized to appoint a committee of five to digest and report in detail as soon as practicable upon the time, place, and terms of the publication of such a journal, to elect an editor, fix his

salary, and to arrange all other necessary details."

After some discussion, Dr. Davis moved to strike out so much of the resolution as related to the election of an editor. Adopted. On motion, the secretary and treasurer were added to the committee.

Dr. Toner offered a resolution instructing the secretary to publish, with the forthcoming report of the Transactions of the Association, the index of the proceedings of all the previous meetings. Adopted.

Dr. William Pepper, chairman of the Section on Medicine, read an able address, discussing recent theories of disease, and suggesting that many conditions now considered as typical of blood-poisoning might be due, as originally taught by Broussais, to some internal morbid condition, such as inflammation of mucous membranes, chiefly catarrhal in character.

The chairman of the Section on Obstetrics, Dr. Chadwick, of Boston, read his address upon the Advance of Obstetrics and Gynæcology during the past five years, which contained a valuable résumé of interesting cases, important operations, and statistics of publications in this department of practical medicine.

Both addresses were referred to the Committee of Publication.

Dr. J. M. Toner, from the Committee on Necrology, presented his annual report, which was referred to the Committee of Publication.

PROCEEDINGS IN THE SECTIONS.

SECTION I.—*Practice of Medicine, Materia Medica, and Physiology.* Dr. Wm. Pepper, Philadelphia, Chairman; Dr. T. A. Ashby, Baltimore, Secretary.

By appointment, Dr. King read a paper by Dr. Prentiss, of New York, entitled "Is Croupous Pneumonia a Zymotic Disease?" after which Dr. Dabney read a paper on "The Nature and Treatment of Pneumonia," which elicited an animated and prolonged discussion, without any general agreement, upon the subject of the etiology of pneumonia.

Dr. Robinson, of New York, being absent, his paper was read by title, "On the Nature and Treatment of Pulmonary Phthisis," and referred to the Publication Committee.

Dr. L. Duncan Bulkley, of New York, presented a paper on the "Diet and Hygiene of Eczema," which was deferred until the next afternoon.

SECTION II.—*Surgery and Anatomy.* Dr. Hunter McGuire, Chairman; Dr. Duncan Eve, Secretary.

Dr. Charles F. Stillman, of New Jersey, read a paper on a "New System of Surgical Mechanics," and presented a number of splints. He summed up the advantages of his system as follows. 1. Extension at any angle with motion. 2. Extension at any angle with luxation. 3. Fixation. 4. Motion complete or limited, constant or occasional. 5. Exposure of surface about the joint, admitting compression, elastic or otherwise; hot and cold applications; blisters; dressings; and easy inspection.

Dr. Alfred C. Post, of New York, read a paper on "Plastic Operations on the Face," and reported two cases. The first case which he related was one of epithelioma, involving the left side of the face, about fifty-five millimetres in diameter, extending above to a line within six millimetres of the margin of the lower lid, and below to a line midway between the ala of the nose and the angle of the mouth. The patient was a man 61 years of age. Dr. Post operated by making a horizontal incision separating the morbid growth from the lower lid, and another parallel incision below the tumor, connecting the two by vertical incisions before and behind. He then dissected up from the adjacent parts the diseased mass included between the four incisions, leaving a quadrilateral chasm, nearly of a square form. The two vertical incisions were then extended downward, the anterior one to a little below the base of the lower jaw, and the posterior one nearly as low as the base of the jaw. From the inferior extremities of these two vertical incisions, curved incisions, with their concavities looking backward and upward, were made to the extent of five centimetres, including between them a peduncle of skin and subjacent tissues for the nourishment of the extensive flap. The flap was then drawn up and secured by sutures so as to fill up the whole space left vacant by the removal of the disease. The wound healed throughout, leaving the patient but slightly disfigured.

The second case was one of absence of the upper lip and of the columna nasi, as well as of a portion of the right ala nasi, occasioned by the application of a caustic paste for the removal of a supposed cancer of the upper lip. The patient was a man 65 years of age. Dr. Post operated on the 1st of May, 1880. He commenced by separating from the cheek a small remnant of the upper lip, which remained at the left extremity, and reversing it so as to form a columna for the nose. He then made two horizontal flaps from the cheeks with peduncles carved downward and forward, and united them by means of pins and sutures, so as to reconstruct the upper lip. A number of supplementary operations were required, and the result was a marked improvement in the appearance of the patient.

Water-color drawings were exhibited, showing the conditions of these two patients before and after the operations, which showed the benefit and added much to the interest of the paper.

Dr. D. H. Goodwillie, of New York City, read a paper on "Treatment of Arthritis of the Temporo-Maxillary Articulation," in which

he reported cases treated. The causes of arthritis are local and constitutional. Whenever it occurs, the motion of the jaws becomes impaired according to the cause, severity, and length of the disease, and they often require long treatment in order to restore the muscles to their normal condition.

The treatment is by means of apparatus to relieve the joint of pressure on the inflamed articular surfaces. It is made as follows. An impression of the teeth of the entire jaw is taken, and an interdental splint made, the posterior part of which is thickened a little, for the purpose of a fulcrum.

Another impression is taken of the chin, and a rubber splint is made to fit it. A skull-cap is next made to fit the head closely, with elastic bands on each side passing down from it and fastened to the chin-splint.

The interdental splint is placed in position in the mouth, and the back teeth of the jaw closed on the fulcrum of the interdental splint; then, when pressure is made on the chin by tightening the elastic bands connecting the skull-cap with the chin-splint, the joint is relieved from pressure.

Dr. Moore, of Rochester, called attention to cases where cicatricial bands caused the trouble,—division of which usually cured them.

Dr. S. D. Gross, of Philadelphia, had seen comparatively few such cases since the abuse of calomel has ceased. He had not been able to accomplish much with wedges. Alluding to section of the bone, he said he had several times performed the operation.

Dr. Hunter McGuire, of Richmond, Virginia, said that one of the cases alluded to by Dr. Goodwillie afterwards fell into his hands. The case was not cured. There was no motion whatever. Dr. McGuire took out a wedge-shaped piece of bone just at the angle, and the result was good. He also spoke of a case of eleven years' standing, where a bridge of bone passed from the upper to the lower jaw, treated in a similar manner by excision of the bridge of bone.

Dr. L. A. Sayre exhibited the mode of applying a plaster jacket to a case of lateral curvature.

On motion of Prof. Gross, a vote of thanks was passed to Dr. Sayre. In discussing the method, Dr. Hodgen, of St. Louis, criticised the jury-mast, and said that it affected the growth of the jaw, which Dr. Sayre said he had never observed. Dr. Hutchison, of New York, spoke in favor of his method of treatment of hip-disease over that by the wire breeches.

The Chair appointed Drs. Kinloch, of South Carolina, Pratt, of St. Louis, and Burgett, of New York, as members of the Prize Award Committee.

SECTION III.—*Obstetrics and Diseases of Women.* Dr. J. R. Chadwick, Boston, Chairman; Dr. J. T. Johnson, D.C., Secretary.

A prolonged discussion was held upon the nature of the investment of uterine fibroids. Dr. H. P. C. Wilson, of Baltimore, then exhibited his uterine dilator and other instruments, which gave an opportunity for a protest from several members against instrumental interference with the uterus upon too slight grounds, betraying a reaction against the common resort to dangerous procedures upon trivial excuses.

Dr. H. O. Marcy exhibited his double drainage and injection tubes, by invitation from the Chair.

SECTION IV.—*On State Medicine*, etc. Dr. J. S. Billings, Chairman; Dr. R. J. Jennings, Secretary.

Prof. J. L. Cabell read a paper on "The National Board of Health and the International Sanitary Conference of 1881." After a historical sketch of the labors of the National Board of Health and of the conference which met in Washington last January, Dr. Cabell concluded as follows:

"There is, therefore, good reason for hoping that an international agreement may be arrived at between the States most frequently threatened with epidemic invasions. Aside from this, the degree of attention which, as a result of the deliberations of the conference, has been given to the subject of maritime sanitary police, cannot be without fruit in securing greater cleanliness, better ventilation of ships sailing on the high seas, and, in general, an improved sanitary condition of these important instruments of commerce, which become so often the carriers of the most deadly contagion, from the failure to use such precautions as sanitary science suggests, and as it is hoped will now be enforced among the maritime powers of the world."

Dr. C. F. Folsom, of Boston, read a paper on "The Relation of the State to the Insane," in which he compared the present methods of the treatment of the insane with those formerly in vogue. He also gave valuable statistical information as to the number of insane in various sections of the country; and he argued in favor of the establishment of State Lunacy Boards. Among the points made were, first, a Lunacy Board should embrace men with a thorough knowledge of insanity and its treatment. The chief duties of this board should be to secure proper care for those unfortunate insane who are kept in private dwellings, where they are very much liable to neglect. Secondly, they should require the commitment of lunatics to the asylum, and otherwise look into the cases, so as to be able to decide whether the lunatics should be retained for care or be discharged.

The paper was in every respect an able and thoughtful one, and full of information.

In discussing the paper, Dr. Grissom made the point that if insanity is treated promptly it is comparatively curable; but the usual custom is to delay action too long. One rea-

son of this is that some people seem to think it disreputable to have it known that they have an insane person in the family. When insanity becomes generally recognized as a purely physical disease and is so treated, a different feeling in regard to it will prevail, and a better prognosis will be afforded.

SECTION V.—*Ophthalmology, Otology, and Laryngology.* Dr. D. S. Reynolds, Kentucky, Chairman; Dr. S. M. Burnett, Washington, Secretary.

Dr. Carl Seiler, of Philadelphia, read a paper on Syphilitic Laryngitis, in which he discussed the diagnosis and treatment. He stated that the affection could be diagnosticated from non-specific inflammation by the peculiar discoloration of the mucous membrane and the symmetrical disposition of the inflammatory patches. There are frequent ulcerations of the larynx, which may be divided into shallow ulcers (in nothing differing from those seen in catarrhal laryngitis), and deep ulcerations, which were, in the author's opinion, due to the breaking down of the smaller or larger gummata in the mucous membrane. He also stated that a diagnostic sign of syphilitic laryngitis was seen in the red lines, and surrounding areola best observed upon the velum palati. He recommended as treatment (besides the systemic, with iodide of potassium and mercury, and supportive, with tonics, etc.), local touching of the shallow ulcers with solid nitrate of silver fused upon an aluminium probe, and the deep ulcers with acid nitrate of mercury (1 to 4), or the galvanic cautery.

In the discussion, Dr. Reynolds said that he thought constitutional treatment would do more good than any local measures. He was surprised at the statement of Dr. Seiler, that the diagnosis of simple from syphilitic laryngitis was difficult. He did not believe that catarrhal inflammation could produce ulceration. There were three kinds of syphilitic ulcers, viz.:

1. The ulcer with inflamed base and everted edges.

2. Ulcer with pale or gray base, with irregular margin and sharply defined scarlet areola.

3. Ulcer wholly unaccompanied with any evidences of inflammation, with sharply-defined outlines, and gummatous deposits surrounding the margin.

He thought that local applications could give no good results, unless restricted to such remedies as would give relief from pain.

The subject was also discussed by Drs. Stephens and Walsh.

Dr. Chisolm, of Baltimore, read a communication on a form of Tinnitus Aurium, due to rhythmical contraction of the tensor tympani, coming on at intervals in the day, resembling the fluttering of the eyelid. Treatment was unsatisfactory. In one case the omission of wine at dinner gave permanent relief.

Dr. Eugene Smith, of Detroit, reported a case of blepharoplasty, in which transplanting of skin was performed (one and a half by two inches was the size of the portion taken from the arm).

Dr. H. Augustus Wilson, of Philadelphia, presented some compressed pellets of atropia for ophthalmic use. One containing one one-hundredth of a grain was sufficient to relax the accommodation in an hour.

Just before adjournment, a paper by Dr. Laurence Turnbull, of Philadelphia, entitled (1) Otitis Intermittens, with Observations upon the Use of Quinine in Diseases of the Ear; (2) On the Importance of Ear Examinations in Effecting Life Insurance, was, on motion, read by title, and referred to the Committee on Publication.

SECTION VI.—*Diseases of Children.* Dr. A. Jacobi, New York, Chairman; Dr. T. M. Rotch, Boston, Secretary.

Dr. Jacobi made some introductory remarks upon eczema in infants, and advocated the use of restraint to prevent scratching. No water should be used, except in very rare contingencies. Scabs should be removed by alkaline lotions or Hebra's soap, to be followed by astringents, such as zinc ointment or diachylon. Attention to diet is of great importance, and often the children thrive better on artificial food than on breast-milk.

Dr. Jacobi, in the absence of Dr. R. J. Nunn, of Savannah, read a paper for him on the Treatment of Diphtheria. The disease had raged in Savannah with very fatal effects, and a letter from a friend elsewhere said that, after treating six hundred or seven hundred cases, his faith in the efficacy of drugs was very feeble. The causative influences are probably not the same in all cases. Medicines which cure the disease in Germany fail in this country; and the discussions as to the identity of croup, diphtheria, and scarlet fever are strong arguments in favor of this belief, and all treatment based upon one cause must fail to relieve all cases. Dr. Nunn quoted Dr. Jacobi as saying, "The entrance of the diphtheritic poison into the system is not the same in all cases. There are cases in which the origin of the disease is decidedly local. There are others in which the poisoning of the blood through inhalation is the first step in the development of the disease." A powder highly recommended and used is as follows:

℞ Sulphur. sub., gr. xlviij;
Acid. tannic., gr. xij;
Acid. salicylic., gr. i;
Pulv. potass. chlor., gr. xij. M.

Precaution must be used in compounding this prescription. A little of this powder is put on the back of the tongue every hour or two, and a small piece of ice given afterwards. It will be seen that this prescription is a combination of antiseptics principally.

In another case the following formula was used with good effect:

℞ Sulphur., gr. vij;
Acid. boracic., gr. iv;
Acid. tannic., gr. j;
Acid. salicylic., gr. j;
Resorcin., gr. j. M.

Another formula is:

℞ Sulphur. sub., gr. viij;
Acid. boracic., gr. iv;
Acid. benzoic., gr. j;
Acid. salicylic., gr. j;
Acid. tannic., gr. j;
Acid. tartaric., gr. iv;
Sodii chlorid., gr. iv;
Resorcin., gr. j. M.

Dr. Lathrop, of New Hampshire, said that he had experimented with chloroform largely, and finds it a highly useful agent. He uses it in diphtheria and other throat-affections, applied on a piece of cotton attached to a tube or pen-holder. The patients usually required visiting no longer than four days; but the cases were not so malignant as had been reported in other localities.

No unpleasant effects have ever followed this plan of treatment, and the child, in true diphtheria, does not complain of *smarting* from the application of chloroform. He had used this plan of treatment in one hundred cases. Of course constitutional measures are added.

Dr. William Lee, of Baltimore, has used equal parts of tinct. ferri chlorid. and ol. ricini with benefit. He considers the disease as local at first, and then constitutional. A physician from his county had used large doses of ol. copaibæ with benefit, followed by emetics to remove the membrane.

Dr. G. Vivian, of Minnesota, has used in severe epidemics alcohol as an inhalation, and has employed as much as a quart of alcohol a day. He has never seen any constitutional effects ensue.

Dr. J. McNeal, of Gettysburg, Pa., recommends the following: Potass. bromid., ʒj; potass. chlorat., ʒij; acid. carbolic., gr. xx; aquæ, Oj. Use in an inhaler. Locally, chloroformi, ʒij; lin. saponis, ʒj–ʒij.

Dr. F. E. Hitchcock, of Rockland, Maine, uses equal parts of sulphurous acid and water in an atomizer. The proportions can be varied, and the acid used as a gargle, with cold affusion externally.

Dr. Jacobi, in answer to an inquiry concerning the benefit of pilocarpin, said that his opinion of it was unfavorable. It was proposed as a specific by a Dr. Guttmann; and, while on this subject, he would state that this gentleman was not Dr. Guttmann, of Berlin. His article on pilocarpin had struck him as nothing more than an advertising arrangement. In diphtheria there are two forms, one in which the deposit can be readily separated from the mucous surface beneath, and one in which the deposit is deeply imbedded in the lower structures. In the latter form Dr. Jacobi believes that pilocarpin does harm, and in one case he thinks that death was hastened by using this drug. Pilocarpin debilitates the heart's action, often giving rise to nausea and vomiting. The milder cases of diphtheria recover, as a rule, if left alone; and in all cases of the disease he thinks the utility of pilocarpin doubtful. The paper in which pilocarpin was recommended as a specific is not satisfactory as regards the description of the cases treated. If the remedy be used at all, a fluid extract is the best preparation, as the muriate of pilocarpin is decomposed in the stomach. His opinion also of the effect of lime was not so high as that of many writers.

Dr. E. H. Bradford presented a paper entitled "Resection of the Tarsus in Severe Cases of Club-Foot." The first case was that of a girl eleven years old, with severe equino-varus, the axis of the foot being at right angles with that of the leg. Tenotomy and mechanical treatment were tried for a month, with but slight benefit. Dr. Bradford removed a wedge-shaped section of bone from the tarsus with a metacarpal saw, and with antiseptic precautions. There were no constitutional symptoms after the operation (except that the temperature rose once to 101°, being otherwise normal during the recovery), and in five weeks the patient was able to walk without a cane. The second case was one of a boy thirteen years old, with club-foot, in which an equally good result was obtained after operation.

THIRD DAY'S PROCEEDINGS.

After the announcement of the names of additional delegates, Dr. Hunter S. McGuire, of Virginia, as chairman of the Section on Surgery, read an address upon "Operative Interference in Gunshot Wounds of the Peritoneum," urging surgical interference, free drainage, etc.

Dr. John S. Billings, by vote of the Section on State Medicine, read the paper presented yesterday to the Section, "On Some of the Results of the Tenth Census, as regards Mortality Statistics."

Dr. N. S. Davis submitted a report on "Clinical Observations and Records." The report was accompanied by a recommendation that a committee of five be appointed by the President of the Association, to be called the Standing Committee on Atmospheric Conditions and their Relation to the Prevalence of Diseases; also suggesting how the committee shall be appointed, etc., and that five hundred dollars be appropriated for expenses. The recommendations were adopted.

OFFICERS FOR 1881.

Upon a question of privilege, Dr. Sayre, of New York, requested that the minutes of the session of 1877 be so amended as to contain his protest against a resolution adopted in the Surgical Section in regard to shortening after

fracture of long bones, which, he explained, was sent to the secretary of the Association, and not to a Chicago newspaper, as had been publicly asserted. The amendment was ordered to be made, in accordance with the explanation.

Dr. Stone submitted the report of the Committee on Nominations, as follows: For President, J. J. Woodward, U. S. A., of Washington; First Vice-President, I. P. O. Hooper, of Arkansas; Second Vice-President, Leartus Conner, of Michigan; Third Vice-President, Eugene Grissom, of North Carolina; Fourth Vice-President, Hunter McGuire, of Richmond; Secretary, William B. Atkinson, of Pennsylvania; Treasurer, R. J. Dunglison, of Pennsylvania; Librarian, William Lee, of Washington, D.C.; Chairman of the Committee on Arrangements, Dr. Stone.

Vacancies in the Judicial Council were filled by the appointment of Dr. S. N. Benham, of Pennsylvania; Dr. J. M. Jones, of the District of Columbia; D. A. Linthicum, of Arkansas; William Brodie, of Michigan; H. D. Hollon, of Vermont; A. B. Sloan, of Missouri; and R. Beverly Cole, of California.

St. Paul, Minnesota, was selected as the next place of meeting.

On motion of Prof. Gross, the rules were suspended. He then offered a resolution to establish a Section on Dentistry, which, as an amendment, was duly laid over until next meeting.

The amendment to the Code of Ethics was then again taken up for discussion: "and hence it is considered derogatory to the interests of the public and honor of the profession for any physician or teacher to aid in any way the medical teaching or graduation of persons knowing them to be supporters and intended practitioners of some irregular and exclusive system of medicine."

Dr. Davis made an earnest speech in support of the amendment. He was followed by Dr. M. P. Martin, of Massachusetts, also in support of the amendment.

A motion to lay the subject on the table was lost,—ayes 106, noes 108. The matter was again postponed, and made the special order for the next morning, immediately after the meeting of the Association.

The following amendment to the by-laws, offered by Dr. J. M. Keller, of Arkansas, then came up and was adopted:

"In the election of officers and appointment of committees of this Association by the President, he shall be confined to members in actual attendance, except in the Committee on Arrangements."

PROCEEDINGS IN THE SECTIONS.

SECTION I.—*Practice of Medicine.* Dr. L. D. Bulkley finished his paper on the Diet and Hygiene of Eczema, which he regarded as of great importance in treatment.

Dr. Whitaker, of Cincinnati, read a communication on the Treatment of Diphtheria, in which he recommended the use of antiseptics, such as quinine, salicylic acid, and the benzoates, and the local application of the officinal solution of the subsulphate of iron.

Dr. J. A. Octerlony presented a paper on the Treatment of Dysentery, which was referred.

Dr. I. E. Atkinson read a paper on "The Production of Albuminuria by the Use of Iodide of Potassium in Syphilitic Disease," which led to an interesting discussion.

Dr. H. Augustus Wilson showed his hypodermic pellets.

Dr. Henry A. Martin read a paper on Variola Vaccina and Variola Equinæ in Massachusetts, in which he reported a true case of spontaneous *variola equinæ*.

In conclusion, he moved that this Section recommend to the Association that a committee be appointed to visit these various farms and investigate the whole subject of bovine virus. Carried.

"The Materia Medica of the Future" was the title of a paper read by Dr. T. E. Stewart, of New York, and referred.

The following resolution, offered by Dr. Dunster, was adopted:

"*Resolved*, That the spirit of the Code of Ethics forbids a physician from prescribing a remedy controlled by a patent, copyright, or trade-mark. This, however, shall except a patent upon a process of manufacture or machinery, provided said patent be not used to prevent legitimate competition; and shall also except use of a trade-mark used to designate a brand of manufacture; provided that the article so marked be accompanied by working formulæ, duly sworn to, and also by a technical, scientific name under which any one can compete in the manufacture of the same."

Dr. Upshur, of Richmond, Virginia, read the report of a case of paralysis of motion of both upper extremities, in which the prominent symptoms were complete paralysis of motion of both upper extremities *except in the hands*, intense pain in the shoulders on any attempt to lie down, and inability to sleep. The attack was ushered in by convulsions epileptic in character.

SECTION II.—*Surgery and Anatomy.* Dr. Hunter McGuire, Chairman; Dr. Duncan Eve, Secretary.

Dr. B. A. Watson, of Jersey City, read an essay entitled "An Experimental and Clinical Inquiry into the Etiology and Distinctive Peculiarities of Traumatic Fever." After a historical résumé, he proceeded to define "traumatic fever," which he regarded as a term often used improperly for "septic fever." Modern investigations lead us to admit the existence of two varieties of fever after wounds, a septic and a non-septic variety. In a series of physiological experiments upon rabbits, in which he succeeded in lowering the temperature by injections of ether, chloroform, or car-

bolic acid, in most cases absorption of the fluid and swelling took place without a rise of temperature; in the exceptional case abscess with septic poisoning, and death, resulted. After these careful experiments, the writer is convinced that the fever was not due to the lesion, and raised the question as to whether or not it is due to the absorption of carbolic acid. The carefully-made experiments of Edelberg apparently demonstrated that the traumal fever noticed in connection with the antiseptic treatment should be attributed to the partly congealed and partly fluid blood rather than to the carbolic acid. After reviewing the question thoroughly, Dr. Watson is confident that primary "antiseptic" fever is due to carbolic acid acting on the wound-secretion, aided by the air; whilst absorption always precedes true septic phenomena.

The paper was discussed by Drs. Campbell, Nancrede, Post, Quimby, and others.

Dr. Charles A. Leale read a paper on "Malignant Pustule, or Labial Carbuncle," for which he advocated free incisions and thorough cauterizing the cut surfaces with nitric acid, subsequently treating it as an open wound with balsam of Peru.

On motion, a committee of three was appointed to select six subjects for discussion in the Section on Surgery at the next session of the Association.

SECTION III.—*Obstetrics and Diseases of Women.* The Chair announced the following committees:

Committee for Selection of Subject of Essay.—Prof. E. S. Dunster, Michigan; Prof. G. M. B. Maughs, St. Louis; Dr. H. M. Field, Boston.

Committee of Award.—Dr. Robert Battey, Georgia; Dr. Albert H. Smith, Philadelphia, Pa.; Dr. P. F. Mundé, New York City.

Committee to which Papers for Publication were Referred.—Dr. Joseph Tabor Johnson, Washington, D.C.; Dr. John Byrne, Brooklyn, N.Y.; Dr. H. P. C. Wilson, Baltimore, Md.

Dr. Joseph Tabor Johnson read a clinical inquiry entitled "Can we make a positive diagnosis of pregnancy previous to the occurrence of the audible sounds of the fœtal heart and the detection of the fœtal movements?" After citing the presumptive evidences of pregnancy, he concluded that the increased temperature of the vagina afforded a means of positive diagnosis of early pregnancy.

The paper was generally discussed.

Dr. Robt. Battey, of Georgia, was surprised that no gentleman had mentioned any of the following aphorisms in doubtful cases:

1st. Always consider a married woman pregnant if living with her husband until *proved* otherwise.

2d. Always consider an unmarried woman innocent till *proved* guilty.

3d. Always believe that a woman married, of the highest character, living with a husband of equally high character, both solemnly assuring the medical man that no intercourse has taken place for two years, as she has been bedridden for that length of time, may bring forth a dead fœtus.

4th. Always believe a young unmarried woman with abdominal tumor, of high social position and unimpeachable virtue, if she has been watched over by a platonic and abstemious young cousin of the male persuasion while the mother went out—to be pregnant.

Dr. P. F. Mundé, of New York, exhibited some instruments of original device, after which a discussion was entered into upon the subject of the management of the third stage of labor.

SECTION IV.—*Medical Jurisprudence and State Medicine.*

No papers were read before this Section; two were referred by title to the Publication Committee,—on "Cellars," by Dr. A. N. Bell, of Garden City, and on the "Necessity and Means of Removing Putrescible Matters from Inhabited Places," by Dr. W. Wright, of Milwaukee.

SECTION V.—*Ophthalmology, Otology, and Laryngology.*

The afternoon was devoted to the discussion of Astigmatism, by Drs. Reynolds, Risley, Burnett, Scott, and Daly.

A paper presented by the Chairman on the treatment of nasal polypi was read by title and referred.

SECTION VI.—*Diseases of Children.*

Dr. Blake, of Massachusetts, presented a paper on "Middle-Ear Disease in Children in the Course of the Acute Exanthemata."

Dr. Jacobi presented his address as chairman of the Section, in which special attention was given to the exanthemata. Rubeola (German measles) he considered fully entitled to a position among the contagious constitutional affections. In diphtheria he protested against the use of large doses of chlorate of potassium, as being dangerous, many fatal cases being on record. The paper was followed by general discussion.

Dr. Rotch, of Boston, said that, in order that there should be no confusion of terms, it should be first stated that there was a true measles and a rubeola (the rötheln of the German writers), as stated by Dr. Jacobi, and that so far as the eruption was concerned it was often impossible to make a distinction; secondly, that roseola, which was usually a papular eczema, had nothing to do with the other diseases, and that in the great majority of cases the eruption caused by eating crabs was that of urticaria, which of course was easily distinguished from the eruption of measles; thirdly, that he would again state that undoubted cases of true rubeola had been observed in Boston, where the disease is well recognized and differentiated from measles.

FOURTH DAY'S PROCEEDINGS.

The President announced the following Committee on Clinical Observations and Records: Drs. N. S. Davis, Chicago; J. M. Toner, D.C.; H. A. Marcy, Boston; W. H. Giddings, N.C.; S. M. Bemis, New Orleans.

THE ETHICAL AMENDMENT.

Dr. Billings, U.S.A., of Washington, submitted the following as a substitute for the amendment to the Code of Ethics which was under discussion yesterday: "It is not in accordance with the interests of the public, or the honor of the profession, that any physician or medical teacher should examine, or sign diplomas or certificates of proficiency for, or otherwise be specially concerned with the graduation of, persons who they have good reason to believe intend to support and practise any exclusive and irregular system of medicine."

Dr. Billings, in offering the paper, said, "This amendment has been prepared after consultation with the representatives of the various views which have been presented here, and it is believed to embody the prevailing opinion of the Association. It places no restriction upon teaching or upon the diffusion of knowledge, while it affirms the principle that we will not endorse in any way or recommend to the public men who limit their practice to one special dogma, or who deliberately class themselves with the vilifiers of and sneerers at regular medicine for the sake of notoriety."

The substitute, under the call of the previous question, was adopted.

The Committee on Nominations made their final report, naming the presidents and secretaries of the various Sections.

ABUSE OF MEDICAL CHARITIES.

The committee to which was referred the communication from the Philadelphia County Medical Society in reference to the abuse of medical charities reported the proposed plan of co-operation between the medical charities and Philadelphia Society for Organizing Charities to be admirably adapted, if faithfully carried out, to remedy the evil at which it is aimed, and which has reached such colossal proportions in that as in every large city both in this country and in Great Britain. As Philadelphia is exceptionally favored in having its systems of charity so admirably methodized and co-ordinated, your committee would suggest that in other cities not possessed of this machinery a concerted action of all the medical charities, in combination with the police authorities, in the matter of the visitation and registration of the dependent classes, might be attended with valuable results. The report concluded with the following resolution:

"*Resolved*, That the secretary be instructed to convey to the officers of the Philadelphia County Medical Society the acknowledgment of the indebtedness of this Association to the Society for thus bringing to our notice its action in a matter so nearly concerning the dignity of the profession and the welfare of the public."

The resolution offered yesterday by Dr. E. Dunster in the Section on Practice, relating to patent medicines, was referred to the Judicial Council.

The report of the treasurer showed a balance of two thousand and eight dollars and forty-six cents in his hands.

The librarian, Dr. Lee, presented an interesting report, and asked that two hundred dollars be appropriated for binding and purchase of books, and that the treasurer be authorized to subscribe fifty dollars to the *Index Medicus*, both of which were adopted.

On motion, one thousand dollars were appropriated from the treasury for the permanent secretary for his services during last year.

REPORT OF NOMINATING COMMITTEE.

The Committee on Nominations reported the following additional officers, who were elected:

I. *Section on Practice of Medicine.*—Chairman, Dr. J. A. Octerlony, Kentucky; Secretary, Dr. Deering J. Roberts, Tennessee.

II. *Section on Surgery and Anatomy.*—Chairman, Dr. J. C. Hughes, Iowa; Secretary, Dr. William A. Byrd, Illinois.

III. *Section on Obstetrics.*—Chairman, Dr. H. O. Marcy, Massachusetts; Secretary, Dr. C. V. Mottram, Kansas.

IV. *Section on Medical Jurisprudence and State Medicine.*—Chairman, Dr. A. L. Gihon, Washington, D.C.; Secretary, Dr. J. H. Sears, Texas.

V. *Ophthalmology, Otology, and Laryngology.*—Chairman, Dr. D. B. St. John Roosa, New York; Secretary, Dr. J. Solis Cohen, Philadelphia, Pa.

VI. *Diseases of Children.*—Chairman, Dr. S. C. Busèy, Washington, D.C.; Secretary, Dr. William Lee, Baltimore, Md.

VII. *Dentistry.*—Chairman, Dr. D. H. Goodwillie, New York; Secretary, Dr. P. W. Brophy, Illinois.

Judicial Council: Drs. S. N. Benham, Pennsylvania; J. M. Toner, Washington, D.C.; D. A. Linthicum, Arkansas; William Brodie, Michigan; H. S. Holton, Vermont; A. B. Sloan, Missouri; R. Beverly Cole, California.

Dr. D. S. Reynolds, of Kentucky, delivered the address of the Chairman of the Section on Ophthalmology, etc., which was appropriately referred. The reports of the committees on Necrology and secretaries of Sections were also presented. The report of the Section on State Medicine, containing a resolution offered by Dr. Martin, of Boston, recommending investigation of the vaccine farms and the methods of propagating bovine virus, was adopted, and a committee of three ap-

pointed for the purpose, and one hundred dollars appropriated for expenses.

Dr. William M. Beech, of Ohio, chairman, submitted the report of the committee appointed on social position of members of the medical staff of the army and navy, in which he asked that the committee be continued. In doing so, he argued that the principle of promotion which prevails among army officers and in the other departments of the government should be extended to the medical staff.

On motion of Dr. Davis, the matter was laid on the table.

RESOLUTION OF THANKS.

The Convention passed a resolution of thanks to the Committee of Arrangements of this Association, for the faithful attention they have given to their duties and requirements; to the medical profession and citizens of Richmond, for their hospitality and endeavors to make the meeting pleasant and agreeable; to Drs. McCaw and McGuire, for the elegant special entertainment given by them at the Westmoreland Club; to Mr. McClure, superintendent of the Telephone Company, for special facilities given the Committee of Arrangements and the Association; to Vice-President Parsons, of the Richmond & Alleghany Railroad, to Mr. Powell, manager of the Richmond Theatre, and to others, who had contributed to the pleasure and comfort of the members.

President Hodgen, in a short speech, then declared the Association adjourned.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

AT a conversational meeting of the Society, held at the Hall of the College of Physicians, Philadelphia, February 23, 1881, Dr. Albert H. Smith, President of the Society, in the chair, Dr. E. T. Bruen read a paper entitled "Clinical Notes Relative to Physical Diagnosis" (see p. 513).

DISCUSSION.

Dr. F. P. Henry remarked that the fact of Dr. Bruen having reported in succession cases of pleurisy with effusion and thoracic aneurism very naturally recalled to his mind a case illustrating that form of disease that is most apt to be mistaken for thoracic aneurism. He referred to pulsating empyema. The affection is an extremely rare one. Dr. Henry had met with but one case, and in medical literature had found recorded, with full details, but three others. These three were reported by Mr. MacDonnell in the *Dublin Journal of Medical Science* for March 1, 1844, and the term "pulsating empyema," as applied to cases of empyema attended with one or more circumscribed, strongly-pulsating tumors, was there first employed.

In Dr. Henry's case there were three strongly-pulsating tumors,—one in the left mammary region, about the size of half a large orange; a second, much smaller, and more acuminated in shape, in the left antero-lateral region; and a third, the largest of the three, in the left postero-inferior region, its long diameter, about four inches, corresponding with that of the vertebral column. All three of these tumors possessed a strong, systolic, expansile pulsation. The patient was a female, aged about 30, who was admitted to the Episcopal Hospital by Dr. Henry in the spring of 1880. The day after admission, pus was withdrawn from the smallest tumor by a hypodermic syringe. The next day, aspiration was performed, and some time after, a drainage-tube was inserted by Dr. John Ashhurst. The woman is still alive, and an inmate of the Hospital. Further details are now withheld, as the notes of the case will probably soon be published in full. The object of this premature and imperfect announcement with regard to it, apart from its manifest bearing upon the subject of Dr. Bruen's paper, is to inquire whether members of the Society have met with any similar cases.

Dr. H. Y. Evans said that a careful study of the sphygmographic tracings in aneurismal cases would throw light on the question of the contents of the sac: if nearly solid it would not give as abrupt a decline as where the contents are fluid.

Dr. J. T. Eskridge said that an Italian physician had declared that in purulent collection in the chest the vocal fremitus is entirely obliterated, but in serous effusion it is not absolutely lost. Dr. Da Costa had, in a certain case, based a diagnosis of empyema upon the entire absence of vocal fremitus. The vocal fremitus over the upper part of the chest is at the same time increased by the condensation and congestion of the lung, except where pulmonary emphysema coexists. He had never seen the Corrigan pulse except in cases of aortic regurgitation, though, if it did occur, there need be no fear of a mistake in diagnosis. In such cases, there is enormously-hypertrophied left ventricle; this hypertrophy does not occur in aneurism. Another point of distinction is the absence of retinal pulsation.

Dr. E. T. Bruen referred to a case of pulsating empyema where the observation was made that the pulsation was not transmitted from the heart; there was not the heaving pulsation of aneurism; but a needle introduced between the ribs only brought out blood and pus; this was repeated several times. This illustrates the difficulty of diagnosis. The statement that the transmitted pulsation in empyema is not so expansile as over an aneurism, he considered well founded, but recognized an especial difficulty in some cases of deciding the question after the acute symptoms have passed away.

With regard to vocal fremitus, he had seen cases of empyema in which it was preserved.

With regard to the sphygmograph, he had tried several kinds without complete satisfaction. Pond's is especially bad, because the weight on the end of the lever drags the needle backward so as to exaggerate the dicrotism. Marey's instrument yields better results.

The object of presenting this paper was to insist upon a systematic method of study of clinical cases: where a mistake is made, it is generally because the case has not been carefully studied, the diagnosis having been made from isolated symptoms.

On motion, the thanks of the Society were tendered Dr. Bruen for his interesting paper.

DISCUSSION UPON RÖTHELN.

Dr. Laurence Turnbull had recently seen a case very much like measles, but without catarrhal symptoms, which he thought must be German measles, or rötheln. It began with a slight rigor and fever, which was followed by enlarged glands over the mastoid region and in the neck, and by an eruption beginning upon the face and spreading rapidly over the whole body. The rash was not crescentic, and there was no marked elevation; it had an itching sensation, like a second vaccination. The eruption more resembled that of scarlet fever than measles.

Dr. Wittig said that the disease was not new, as he had seen it thirty years ago. Some cases show more effect upon the mucous membranes, others more upon the general surface; some have the inflammation of the conjunctiva like measles, others behave more like scarlatina. The kidneys are sometimes affected. Ordinarily, the disorder is not serious, and requires but little medication. Diluents, nitre, spirits of Mindererus, in some; in others, acidulated drinks are better, such as mineral acids.

Dr. O'Hara noticed a great difficulty in diagnosis in some cases. One case appeared the first day like one of malignant smallpox, on the second like scarlet fever, and on the third like measles. He subsequently concluded that it was German measles. In five or six days the attack had passed away.

The disease has a faint resemblance to smallpox. In only one case out of sixty had he noticed a resemblance to measles.

Dr. W. B. Atkinson based his diagnosis upon the rapidity with which the eruption spreads over the entire body. In six or eight hours the surface is covered, and it disappears just as rapidly. It requires very little treatment.

Dr. W. R. D. Blackwood had seen a great deal of measles, and had been able to distinguish this disease from it in only one case. The eruption spread rapidly, pulmonary symptoms were light, no coryza; but the child was extremely sick for a few days. There was considerable glandular enlargement in the axilla and groin, but especially in the post-cervical glands. Recovery took place in a few days.

Dr. E. T. Bruen mentioned a case where a child had measles, and, a year afterwards, had the typical eruption apparently, but without coryza or inflammation of the lungs. The eruption came out precisely the same in appearance, but the child did not seem very sick, and the disorder ran a mild course, desquamation occurring in ten days. This second attack he considered rötheln.

Dr. H. H. Smith asked if the disease is not called by the older writers *rubeola sine catarrho*.

Dr. Wittig said that it probably was. The name rötheln merely means that it is like roseola.

Dr. William M. Welch said that a great many cases of this character are received at the Municipal Hospital, being mistaken for smallpox. The disorder appeared to him to be very much like measles, but without the coryza. The eruption continues for several days, during which period the patients do not seem very sick. He had observed, in some cases, a temporary staining of the skin after the eruption had passed off.

REVIEWS AND BOOK NOTICES.

A System of Oral Surgery. By James E. Garretson, M.D. Philadelphia, J. B. Lippincott & Co., 1881.

Whether oral surgery be or be not a legitimate specialty in the eyes of the general surgeon, the appearance of the third edition of this book is evidence that there are practitioners of surgery, of medicine, or of dentistry who feel the need of more detailed instruction upon diseases of the mouth than is to be obtained from works on general surgery. The position of Dr. Garretson, as one who, originally a dentist, has passed from the narrower sphere to the wider outlook of a general surgeon, and has been successful in each career, of course eminently fits him to be the author of a treatise like the present. We think most of those who use Dr. Garretson's book will agree with us rather than with what *seems* to be his own opinion,—namely, that the most valuable part of the book is that which deals with practical points, and that when philosophy comes in, then his thought has some tendency to become metaphysical,—*i.e.*, intangible, and altogether above those lower regions of common sense in which a metaphysician withers as an exotic dies in a Northern winter. Take, as example, his chapter on tumors. Practically, his idea of diagnosing cancer by exclusion is often of value; scientifically, his division of tumors would probably never have been made by any one educated in strict scientific and not metaphysical or practical thinking.

But we are losing sight of the duty of one who notices a new edition of an old book,—namely, to compare it with the previous output. Of this volume we can say that it appears to us, in many ways, superior to its predecessor. It will no doubt enjoy the continued success it deserves, and sustain the reputation of its author.

LECTURES ON THE DISEASES OF THE RECTUM AND THE SURGERY OF THE LOWER BOWEL. Delivered at the Bellevue Hospital Medical College. By W. H. VAN BUREN, M.D., LL.D. Yalen., Professor of the Principles and Practice of Surgery in the Bellevue Hospital Medical College, etc., etc. New York, D. Appleton & Co., 1881.

The volume before us is a second edition of the lectures delivered by the eminent professor in Bellevue College. These lectures are twelve in number, and may be taken as an excellent epitome of our present knowledge of the diseases of the parts in question. The work is full of practical matter, but it owes not a little of its value to the original thought, labor, and suggestions as to the treatment of disease, which always characterize the productions of the pen of Dr. Van Buren.

It is, of course, impossible, within the narrow limits of a book-notice, to do more than allude to the contents of such a book. The first two lectures are devoted to the consideration of pruritus, eczema, and hemorrhoids, internal and external. The general symptoms of the latter complaint are graphically described, and the hygienic and palliative measures which should be resorted to are forcibly laid down. The use of nitric acid as a palliative remedy is restricted to hemorrhoids occurring in young full-blooded subjects, where there is a tendency to hemorrhage, and where the protruding surfaces are red, vascular, velvety, and limited in extent. The different processes for the radical cure of internal hemorrhoids are carefully considered by the author, who tells us that he has tried all of the measures employed to destroy these tumors, and can "confidently recommend to you strangulation by the ligature as the safest, surest, and most manageable procedure." The écraseur he objects to as being tedious, and as being sometimes followed by bleeding.

In performing the operation of ligation of hemorrhoids Dr. Van Buren differs somewhat from the practice of surgeons generally. He is not content with simply ligating the tumors, but insists strongly on thorough dilatation of the sphincter ani muscle at the commencement of the operation, by which process the interior of the lower portion of the rectum is placed entirely at his disposition. This stretching of the muscle, he tells us, saves much pain and trouble to the patient after the operation, for the muscle will not recover from its condition for a week, during which time the patient escapes pinching and pressure of the tender parts. There is probably, also, less tendency to retention of urine, which is often so annoying an accompaniment of operations for hemorrhoids. Dr. Van Buren states that he has employed this process of preliminary dilatation for the last twenty years, and "can say truly that I have never seen any permanent injury to the sphincter, nor, indeed, any inconvenience whatever, follow its use;" and he adds that he cannot help thinking that those who speak unfavorably of this measure may not have fully tried it. Dr. Van Buren speaks positively as to the danger of ligation of hemorrhoids in selected cases, and says that it is so trifling as scarcely to be appreciated. He has never had an unpleasant result, but he refers to one fatal case of Dr. Mott's and to one other fatal case. In both instances the death was from pyæmia.

The lecture upon prolapsus ani forms one of the most instructive and valuable chapters in the book. This affection the author divides into two varieties,—the complete and the incomplete. In the former the mucous membrane alone of the rectum descends; in the latter the muscular and serous coats of the bowel, and even other viscera, may also be included. This division corresponds with that of the late French authorities,—prolapse of the mucous membrane alone and prolapse with invagination, the latter containing all the coats of the gut. Dr. Van Buren also further subdivides complete prolapse into three varieties,—viz., the first, or most common form, in which there is no sulcus at the base of the tumor; the second variety, in which there is a sulcus; and the third form, in which invagination has occurred at some point higher up, and distant from the anus. The radical cure in a general way is to be brought about by setting up a process of repair and causing enough plastic exudation into the meshes of the loose submucous tissue of the rectum and anus to glue it fast to the subjacent muscular coat and sphincter, and to hold it there. This the author believes can best be effected by the actual cautery, especially by the use of the thermo-cautery of Paquelin, the instrument being applied in longitudinal and vertical stripes so as to prevent circumferential stricture.

We would like to follow the author through the chapters devoted to the study of abscess, fistula in ano, and fissure of the anus, but our limited space forbids. As to the propriety of the operation for fistula in phthisical patients, Dr. Van Buren says, "I would advise an attempt to cure a patient with physical signs of phthisis, provided there were no positively advancing softening or severe cough, because, in addition to stopping a waste, it would remove an impediment to exercise in the open air, possibly on horseback;" and in this opinion he believes that most practical surgeons concur.

The chapters on ulcer and stricture, and

on tumors and cancer of the rectum, and its general hygiene, are full of interest, and their perusal will well repay even the most busy practitioner.

The book as it stands in its new form is, indeed, a contribution alike worthy of its distinguished writer and creditable to American surgery.

CONTRIBUTION À L'ÉTUDE DU MÉCANISME ET DU TRAITEMENT DE L'HÉMORRHAGIE LIÉE À L'INSERTION VICIEUSE DU PLACENTA. Par DR. PAUL BITOT.

A CONTRIBUTION TO THE STUDY OF THE CAUSES AND TREATMENT OF HEMORRHAGE DUE TO AN ABNORMAL INSERTION OF THE PLACENTA. By DR. PAUL BITOT.

This valuable monogram of one hundred and seventy-eight pages is divided by the author into two parts, the first (containing fifty pages) being devoted to the causes, and the second (containing one hundred and twenty-eight pages) to the treatment, of the hemorrhage occurring in placenta prævia. Considerable space is given to the definition of abnormal insertion of the placenta. Portal receives credit for having first mentioned the possibility of the placenta being situated near the cervix where hemorrhage occurred without other evident cause; but Schlacher is said to have demonstrated the fact of such an implantation upon the cadaver of a patient dying of hemorrhage.

The author refers to the definition given by Barnes concerning normal and abnormal situation of the placenta, reproducing his diagrams as found in Barnes's "Obstetric Operations" illustrating the so-called fundal, meridional, and cervical zones. He makes three varieties of prævia: *complete*, when the centre of the placenta corresponds more or less exactly to the internal os; *partial*, when the placental edges reach the internal os; and *marginal*, when the placenta is situated in its vicinity.

He discusses the causes of hemorrhage during pregnancy, during labor, and after labor. In this connection he mentions the opinions formerly held with regard to the function of the cervix during pregnancy, and gives the theory of Bandl, which he says was first taught by Prof. Guyon. Special attention is given to the theory of Depaul, that hemorrhage is frequently dependent on irregularities in the development of the uterus; to that of Barnes, that hemorrhage is due, first to excess in rate of growth of placenta over cervix, and secondly to the increased congestion at the menstrual nisus; to that of Gendrin, who finds the cause of hemorrhage in pathological conditions of the placenta; and to that of Matthews Duncan, who believes hemorrhage due simply to the rupture of the utero-placental vessels from various causes.

The second portion of the book discusses the *treatment* of hemorrhage before, during, and after labor. He condemns the use of ergot before labor as advised by Dubois, admits the value of vaginal injections as recommended by Seyfurt, and praises highly the use of the tampon, for the introduction of which very minute directions are given and diagrams inserted to illustrate his method more clearly. He does not admit, however, with Wiegand and Holst, that it is entirely unproductive of local irritation. He considers the tampon when well applied the remedy *par excellence* for hemorrhage before or during labor.

Speaking of it during labor, he says that even should it not entirely check the hemorrhage (which is the exception) it restrains it and prepares the genital organs for labor by producing violent and repeated contractions of the uterus.

The treatment of hemorrhage during labor by rupture of the membranes was instituted, the author says, by Mauriceau, in 1688, and the honor is ascribed to Puzos of having introduced that method into general practice in France, Germany, and England. The indications and the contra-indications for this procedure are given, and a table of twelve cases treated "according to the method of Puzos" shows the recovery of mothers to be eighty-five per cent. and the proportion of children saved to be sixty per cent.

The *accouchement forcé*, the methods of Simpson, Barnes, and Cohen, the perforation of the placenta, the use of the forceps, and the operation of version, are discussed. Eight hundred and sixty cases of version performed for placenta prævia show a maternal mortality of thirty per cent.

The treatment of hemorrhage after labor is briefly considered, and nothing new suggested. The author says, "The administration of ergot during the last period of labor and immediately after delivery, internally (if the patient can tolerate it) or by subcutaneous injections in the form of ergotin, and the application of the tampon in combination with compression upon the uterus through the abdominal walls, constitute the most rational procedure."

A very excellent bibliography of the subject of placenta prævia is appended. G. W. L.

RELAPSE OF TYPHOID FEVER, ESPECIALLY WITH REFERENCE TO THE TEMPERATURE. By J. PEARSON, M.D., B.Sc., F.R.C.P. Lond., Assistant Physician to Charing Cross Hospital, Physician to the Victoria Hospital for Children, etc. With Temperature Charts. 8vo, pp. 144. London, J. & A. Churchill, 1880.

The greater part of the matter of this volume was contributed by its author to the *Medical Times and Gazette*, in a series of papers which appeared during the course of the year 1879. It is fortunate that these papers have been collected and given to the profession in a per-

manent form, for they constitute an important contribution to the knowledge of the natural history of typhoid fever, and mark a very considerable advance in the work of clearing up the obscure subject of typhoid relapse.

Since 1830, when relapses in typhoid fever were first described by Schultz, they have attracted the attention of many observers, but, partly by reason of the intrinsic difficulties of the subject and partly by reason of imperfect methods of study, not including systematic temperature-observations during the period of apyrexia intervening between the primary attack and the relapse, not only the pathology but even the sequence of phenomena going to form the clinical history of relapses of typhoid have continued to be involved in great confusion.

The author, coming to the clinical investigation of the subject from the stand-point of the temperature-changes, by which febrile disorders are to be first studied, has greatly systematized and rendered useful the disconnected facts brought to light by Stewart, Thierfelder, Griesinger, Ebstein, Wunderlich, Maclagan, and Da Costa. Much was previously known of typhoid relapse, as much may be known of the scenery of a play by viewing it from the rear of the stage: the scene can, however, only be appreciated as a harmonious and significant picture by regarding it from the proper point of view and well illuminated. It is thus that the author seeks to present to us his subject, by leading us to view it in the light shed upon it by systematic temperature-studies. His object has been in a great measure attained. That he has not wholly succeeded is due to difficulties in the subject as yet insurmountable,—by no means to faulty methods of work or lack of painstaking.

The first chapter is introductory to the subject, and is devoted to general descriptions of relapses and recrudescences, and an account of the plan of the work,—the *proposition*, in a rhetorical sense.

The second is devoted to single relapses, their temperatures, and their modifications by complications.

In the third chapter are considered irregular and complicated single relapses.

The fourth treats of cases in which two or more relapses recur, with or without complications.

The fifth includes recrudescences, intercurrent attacks, irregular relapses, and conditions likely to be confounded with relapse of typhoid fever.

The sixth chapter has to do with cases of fatal relapse.

The seventh and last is devoted to general conclusions and remarks,—*the peroration.*

I regret that my space in the pages of the *Times* prevents any adequate analysis of these chapters. They are written in a truly scientific spirit, and are of great importance to those who would extend their knowledge of our commonest infectious disease. This book is of more value to the thoughtful practitioner than many volumes of ready-reference-books and formularies of convenient prescriptions.

The reports of cases are made clear by a number of well-printed charts of temperature. Upon the page where stands a brief preface is the announcement of the death of its author at the time his book was ready for publication. To the regret that one capable of such excellent work has so soon ceased from his labors is added a thought of the mystery of life, as we look over the pages of a fellow-worker thus newly "gone over to the majority."

J. C. W.

GLEANINGS FROM EXCHANGES.

CASE OF PROGRESSIVE PAINFUL INFLAMMATION OF ARTERIES.—At a recent meeting of the Clinical Society of London (*Medical Press and Circular*, 1881, p. 315) Mr. John H. Morgan read notes of the following case:

G. W., æt. 46, contracted syphilis at 18, has since married, and has several healthy children. He is subject to a curious congenital enlargement of the superficial veins of the chest and abdomen. Nine years ago he was a patient at Guy's Hospital under Dr. Willis, who has described his case. In 1876 he suffered pain in the left armpit, which passed down to the bend of the elbow and then left him. In 1877 he came under Mr. Morgan's care suffering from pain in the left arm for which there seemed no evident cause. There was no swelling, and he soon recovered from this attack. In 1880 occurred an attack of sudden and severe pain in the right groin, deep-seated, and made intense when the part was pressed. The area of pain was confined to two to three inches in the course of the femoral artery, and to one to two inches on either side of it. This pain gradually travelled down in the course of the artery to the popliteal space, being traceable throughout, and being more severe at the part corresponding with the opening in the adductor magnus. In course of time the pain passed into the leg, and here some limited œdema was seen at the seat of pain, but not beyond. Similar pain came suddenly in the right axilla, and passed gradually down in the course of the brachial artery into the forearm, and here again a limited œdema occurred. He was treated with iodide of potash, alkalies, and biniodide of mercury, at various times and in varying quantities, but without material effect upon the disease. Subsequently the right carotid artery was affected in a similar way; the symptoms pointed evidently to disease of an artery,—probably inflammation of the fibrous coat,—since the pain passed from the centre to the periphery, was in the course of the various arteries, and was made intense

directly the finger perceived the pulsation of the artery beneath it. Mr. Morgan had not been able to find any record of observation of similar symptoms. The patient is now in good health, and has had no recurrence of the symptoms.

Flat-Foot in Young Infants.—An editorial article in the *Medical Times and Gazette* (vol. i., 1881, p. 349) quotes from a paper in the *Centralblatt für Chirurgie* by Professor Volkmann. The author alludes to the general belief that the comparatively supinated foot of young infants is converted into the more pronated form of adult age by the weight of the body. If this theory were true, says Volkmann, not only should children who do not learn to stand and walk at the proper time retain the infantile form of foot, but this condition ought to persist in healthy children until the period of standing and walking begins; but this is not the case. Even in the first months of life the foot begins to lose its fœtal form, and may have reached or even passed the normal adult shape before any attempt is made to put it to the ground. And it is also pointed out that in the not uncommon cases where a child, on account of disease or weakness, remains for fifteen or eighteen months without making any efforts at walking, we no longer find the fœtal form of foot remaining. Again, flat-foot may be developed before the end of the eighth or tenth month. Volkmann therefore concludes that body-weight in walking and standing has nothing to do with this change of shape, which depends rather upon hereditary influence. He shows that many changes in shape of bones take place between infantine and adult life, some independent of, some in opposition to, the forces above mentioned. An instance of the latter is the hollowing of the instep, which begins about the time the child begins to walk.

As to the special subject of flat-foot in young children, Volkmann attributes it to four principal causes, as follows. 1. Congenital, depending upon intra-uterine pressure. This form should be treated early and energetically. 2. That form which arises from a too rapid assumption of the adult shape of the foot. Treatment of this variety is invariably unsatisfactory. 3. Rickety flat-foot, which, though undoubtedly, as a rule, caused by the weight of the body, in some cases equally undoubtedly sets in before the child has made any attempt at walking. It seems, therefore, probable that the rickety process itself has an influence in determining the flattening of the plantar arch. 4. Paralytic flat-foot.

Chaulmugra Oil.—A recent editorial article in the *British Medical Journal* (vol. i., 1881, p. 475) says that it is most conveniently administered in capsules, but many patients take it well in milk, cod-liver oil, or almond oil. The usual dose is five to fifteen minims. It is best to begin with a small dose, and increase it gradually as the patient becomes accustomed to the medicine. The *perles*, as sold in the shops, contain four minims, and are convenient for use when the dose is to be frequently varied. Chaulmugra oil was first introduced as a specific for leprosy, and Dr. Liveing has published six cases thus treated which were decidedly benefited by its use. The dose given was as high as a drachm thrice daily, together with inunctions of the same in ointment containing twenty grains of the oil to an ounce of lard. In psoriasis, lupus, and obstinate cases of scabies and ringworm it has been used with success. Chaulmugra oil was also introduced as a remedy for phthisis, but the testimony as to its usefulness in this disease is conflicting. In chronic rheumatism and in rheumatic gout it is most useful. Here it is used alone as an embrocation, the after-smell, which is disagreeable, being covered by violet-powder. For neuralgia and sciatica chaulmugra oil is generally mixed with camphor and chloroform, or with an equal weight of a saturated solution of menthol in chloroform, and then rubbed over the painful part. It is found that children, as a rule, take the chaulmugra without difficulty; and its internal administration, combined with inunction, has been employed with benefit in scrofula and in cases of marasmus.

The Treatment of Pneumonic Fever (Acute Lobar Pneumonia) by the Employment of the Wet Sheet.—Prof. Flint (*Gaillard's Medical Journal*, March, 1881), in a clinical lecture on this subject, says that the treatment is as yet novel in this country, and, being desirous of investigating it, he selected for experiment cases of pneumonic fever where the disease was in an early stage, the patients apparently robust, the pyrexia considerable or high, and no complications existing. The directions were to employ the wet sheet whenever the axillary temperature exceeded 103° Fahr. The patient was wrapped in a sheet saturated with water at a temperature of about 80° Fahr., the bed being protected by an india-rubber covering. Sprinkling with water of about the same temperature was repeated every fifteen or twenty minutes. If the patient complained of chilliness, he was covered with a light woollen blanket, which was removed when the chilly sensation had disappeared. In none of the cases was the blanket used much of the time while the patient was wrapped in the wet sheet. The patient remained in the sheet until the temperature in the mouth fell to 102° or lower, care being taken to watch the pulse and other symptoms. When the temperature was reduced, the wet sheet was removed, and resumed if the temperature again exceeded 103° Fahr.

Prof. Flint's conclusions, drawn from the four cases, full notes of which he gives, indicate that in his opinion the treatment is not

only not hurtful, but the history of these cases renders probable the inference that the disease was controlled and brought speedily to a favorable termination by the treatment.

CASE OF MOVABLE LIVER.—Dr. Chvostek (*Lancet*, vol. i., 1881, p. 429; from *Wiener Med. Blatt*) notes the case of a man with whom nothing appeared to be wrong, and who gave no history of any violence whatever. When he stood up, however, the upper and posterior border of the liver was felt to come forward from under the margin of the thorax, and to be six centimetres and a half below the tip of the xiphoid cartilage in the right præsternal line. The left end of the liver was plainly felt through the abdominal wall, and from it the anterior or, rather, the lower edge of the liver could be traced arching down to the right, being in the middle line fifteen centimetres below the xiphoid process, and in the right nipple and axillary lines respectively seven and one-half to two centimetres below the edge of the thorax. The liver did not markedly descend on taking a deep inspiration. In the horizontal posture it could be replaced under the ribs to a considerable extent. In lying on one side the organ fell, to some extent, towards the dependent side. The lower edge of the suspensory ligament could be felt tightly stretched, but this produced no pain; and so completely absent were all symptoms that the condition was only discovered accidentally.

QUININE AMAUROSIS.—Dr. E. Gruening (*Archives of Ophthalmology*, March, 1881) collects the rather scanty literature of the subject, and adds a case of his own fully noted and with illustrative diagrams. He concludes as follows:

After reviewing the unequivocal cases of quinine-poisoning with amaurosis (Roosa, Wecker, Voorhies, Gruening), we find a remarkable congruence in their essential features. The patient, after the ingestion of a single dose or of repeated doses of quinine in varying quantities, suddenly becomes totally blind and deaf. While the deafness disappears within twenty-four hours, the blindness remains permanent as regards peripheric vision, central vision gradually returning to the normal after some days, weeks, or months. The ophthalmoscope reveals an ischæmia of the retinal arteries and veins, without any inflammatory changes.

In view of the constancy of these symptoms and the uniformity of the ophthalmoscopic picture, we are entitled to demand for this distinct type of amaurosis a recognized position in the pathology of the optic nerve and the retina.

VARICES IN PREGNANCY.—Mr. John Lucas, writing to the *Medical Times and Gazette* (vol. i., 1881, p. 358), says that not only has he seen the varicosity in the most usual part, the leg, but also in the hypogastrium, vulva generally, and labia majora and minora and clitoris in particular, and notably in one case which caused some anxiety. During the eighth month of utero-gestation accompanying anasarca there was frequent retention of urine; the cause of the latter, as suspected by Dr. Matthews Duncan (under whose care the patient came), was, Dr. Lucas thinks, varicosity and consequent anæsthesia of the bladder. Mr. Lucas suggests as possible the theory that albuminuria may be due to this cause, and even grave uræmic symptoms also. If so, catheterism and the retention of a gum-elastic catheter *in situ* through a diaper would be indicated, not merely for the relief of the bladder, but, moreover, for the prevention of those alarming symptoms from supervening.

SUCCESSFUL USE OF NITRITE OF AMYL IN WHOOPING-COUGH.—Dr. R. C. Bowles writes to the *Virginia Medical Monthly* (March, 1881) giving a brief account of a very severe case in a female infant of four months, in which the paroxysmal stage was unusually severe, threatening death by asphyxia at each attack. The lower jaw was clinched as in tetanus, there were violent but ineffectual efforts at respiration, the face black and turgid, the brain flooded with carbonized blood, the sphincters relaxed, involuntary discharges, and the child to all appearances lifeless. But a prompt resort to the usual means of artificial respiration revived it, when it continued tolerably well until the next paroxysm, to follow the same course. This continued for several days, and, having exhausted the list of antispasmodics without relief, Dr. Bowles commenced the use of the inhalation of the nitrite of amyl, with perfect relief of all the symptoms. By the eighth day of using the nitrite, with good doses of cinchona alkaloid, the child was convalescent. Without the nitrite, he is satisfied, it would have died.

MISCELLANY.

THE CARTWRIGHT PRIZE AWARDED TO A PHILADELPHIAN.—The Cartwright prize of five hundred dollars has been awarded by the New York College of Physicians and Surgeons to Dr. Frederick P. Henry, of this city, for his essay entitled "Observations with the Hæmacytometer upon the Globular Composition of the Blood and Milk."

NOTES AND QUERIES.

GRAND FALLS, VICTORIA COUNTY, NEW BRUNSWICK,
May 3, 1881.

EDITOR OF THE PHILADELPHIA MEDICAL TIMES:

DEAR SIR,—Knowing the interest you take in medical reform, I write to inform you that at the last session of our Legislature an act was passed entitled the "New Brunswick Medical Act," which, although susceptible of many improvements, is a great step in advance of our former law, or, rather, want of law. Among the important clauses is one requiring all who, after this, begin the study of medicine to practise in New Brunswick to pursue a four years' course, one of which may be under the direction of a duly registered

medical practitioner, but there must be a college course of three years. This will shut off from our students all but three or four of the American colleges, and will be a drop in the bucket of opinion which will finally drive the rest to adopt a better curriculum. All qualified men are required to register, and matters medical are controlled by a council of nine registered physicians (holding office for a term of years), four appointed by the Governor in Council and five by the New Brunswick Medical Society. The penalty for practising if not registered is twenty dollars for each day. Further idea cannot be given in the scope of a letter.

Yours, etc.,

G. Hayward Coburn.

THE WEST PHILADELPHIA MEDICAL SOCIETY.

The want of a representative medical body which has long been felt by the physicians of West Philadelphia has been met by the organization of this new Society. On Monday evening, April 25, 1881, there was a meeting of a large number of medical men at the Institute, Fortieth and Ludlow Streets, at which an appropriate constitution was adopted, elections held, and all necessary plans matured to put the Society at once into working order. The membership includes a very large proportion of the profession in West Philadelphia and vicinity. The stated meetings are to be held on the first Monday evening of each month. The following are the officers for the first year: President, Dr. Samuel S. Stryker; Vice-President, Dr. Charles A. McCall; Secretary, Dr. James Hendrie Lloyd; Treasurer, Dr. W. H. Wallace; Censors, Drs. Skillern, Girvin, and M. B. Musser; Executive Committee, Drs. J. H. Musser, Dixon, and Dulles.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM MAY 1 TO MAY 14, 1881.

Surgeons R. H. Alexander and C. T. Alexander and Assistant-Surgeon R. H. White are detailed as members of a Board, to meet at West Point, N.Y., June 1 proximo, to examine into physical qualifications of members of the graduating class and the candidates for admission to the Academy. S. O. 109, A. G. O., May 12, 1881.

King, William S., Colonel and Surgeon.—His extension of leave of absence on account of sickness, granted him November 9, 1881, from A. G. O., still further extended six months on account of sickness. S. O. 105, A. G. O., May 7, 1881.

McParlin, T. A.—His promotion to Assistant Medical Purveyor, with the rank of Lieutenant-Colonel, *vice* Cooper, deceased, confirmed by the Senate, May 10, 1881.

Bache, D., Major and Surgeon.—Relieved from duty in Department of California, to proceed to Philadelphia, Pa., and report by letter, on arrival, to the Surgeon-General. S. O. 104, c. s., A. G. O.

McClellan, Ely, Major and Surgeon.—To report to the Medical Director of the Department for duty until further orders. S. O. 56, Department of the Columbia, April 26, 1881.

Hartsuff, A., Major and Surgeon.—Relieved from duty in Department of the East, to take effect June 1, 1881, then to report in person to Commanding General, Department of the Missouri, for assignment to duty. S. O. 104, A. G. O., May 6, 1881.

Middleton, J. V. D., Major and Surgeon.—Relieved from duty in Department of the East, to take effect June 1, 1881, then to report in person to Commanding General, Department of the Missouri, for assignment to duty. S. O. 104, c. s., A. G. O.

Brown, J. M.—His promotion to Surgeon, with the rank of Major, *vice* McParlin, promoted, confirmed by the Senate, May 10, 1881.

Brown, J. M., Captain and Assistant-Surgeon.—Relieved from duty at Fort Garland, Col., and assigned to duty at Fort Lewis, Col. S. O. 86, Department of the Missouri, May 3, 1881.

Hubbard, Van Buren, Captain and Assistant-Surgeon.—Relieved from duty in Department of California, to proceed to New York City, and, on arrival, report by letter to the Surgeon-General. S. O. 104, c. s., A. G. O.

Gardner, W. H., Captain and Assistant-Surgeon.—Relieved from duty in Department of the South, to proceed to Washington, D.C., and report in person to the Surgeon-General. S. O. 104, c. s., A. G. O.

Caldwell, D. G., Captain and Assistant-Surgeon.—Relieved from duty at Fort Fred. Steele, Wyo., and assigned to duty at Fort Sanders, Wyo., as Post-Surgeon, relieving Assistant-Surgeon Kimball. S. O. 36, c. s., Department of the Platte.

Koerper, E. A., Captain and Assistant-Surgeon.—Relieved from duty in Department of the Platte, to proceed to Philadelphia, Pa., and, on arrival, report by letter to the Surgeon-General. S. O. 104, c. s., A. G. O.

Lippincott, Henry, Captain and Assistant-Surgeon.—Having reported at these Headquarters, is assigned to duty as Post-Surgeon at Fort Niobrara, Neb. S. O. 36, Department of the Platte, April 29, 1881.

King, W. H., Captain and Assistant-Surgeon.—Relieved from duty in Department of Dakota, and, on expiration of his present sick-leave of absence, to report by letter to the Surgeon-General. S. O. 104, c. s., A. G. O.

Kimball, J. P., Captain and Assistant-Surgeon.—Assigned to duty at Fort Sidney, Neb., as Post-Surgeon, relieving Assistant-Surgeon Moseley. S. O. 36, c. s., Department of the Platte.

De Witt, C., Captain and Assistant-Surgeon.—Relieved from duty in Department of the Platte, to proceed to Philadelphia, Pa., and, on arrival, report by letter to the Surgeon-General. S. O. 104, c. s., A. G. O.

Havard, V., Captain and Assistant-Surgeon.—Relieved from duty at Presidio del Norte, to proceed to Fort Concho, Texas, await there the arrival of Capt. Livermore, Corps of Engineers, and report to him by letter. S. O. 63, Department of Texas, April 28, 1881.

Moseley, E. B., Captain and Assistant-Surgeon.—Assigned to duty as Post-Surgeon at Fort Fetterman, Wyo. T. S. O. 36, c. s., Department of the Platte.

Maus, L. M., Captain and Assistant-Surgeon.—Relieved from duty in Department of Dakota, to proceed to Washington, D.C., and report in person to the Surgeon-General. S. O. 104, c. s., A. G. O.

Reed, W., Captain and Assistant-Surgeon.—Relieved from duty at Fort Henry, Md., and to report to the Commanding Officer, U. S. Barracks, D.C., for duty at that post. S. O. 76, Department of the East, April 29, 1881.

Shannon, W. C., Captain and Assistant-Surgeon (now awaiting orders in New York City).—To report in person to Commanding General, Department of the Platte, for assignment to duty. S. O. 104, c. s., A. G. O.

Shufeldt, R. W., First-Lieutenant and Assistant-Surgeon.—Relieved from duty in Department of the Platte, to proceed to Washington, D.C., and report in person to the Surgeon-General. S. O. 104, c. s., A. G. O.

Cuningham, T. A., First-Lieutenant and Assistant-Surgeon (now awaiting orders at Danville, Va.).—To report to Commanding General, Department of the South, for assignment to duty. S. O. 104, c. s., A. G. O.

Perley, H. O., First-Lieutenant and Assistant-Surgeon.—Relieved from duty in Department of Dakota, to proceed to Detroit, Mich., and report, on arrival, by letter to the Surgeon-General. S. O. 104, c. s., A. G. O.

Burton, H. G., First-Lieutenant and Assistant-Surgeon.—Relieved from duty at Fort Niagara, N.Y., and assigned to temporary duty at Fort Wadsworth, New York Harbor. S. O. 78, c. s., Department of the East.

Cochran, J. J., First-Lieutenant and Assistant-Surgeon.—Relieved from duty at Fort Lewis, Col., and assigned to duty at Fort Garland, Col. S. O. 86, c. s., Department of the Missouri.

Bushnell, G. E., First-Lieutenant and Assistant-Surgeon.—To proceed to Fort Yates, D.T., and report to the Commanding Officer of that post for duty.—S. O. 81, Department of Dakota, May 6, 1881.

Birmingham, H. P., First-Lieutenant and Assistant-Surgeon.—To proceed to Fort Riley, Kansas, and report to Major E. B. Beaumont, Fourth Cavalry, for duty with troops about to take the field in Colorado. S. O. 90, Department of the Missouri, May 7, 1881.

PHILADELPHIA, JUNE 4, 1881.

ORIGINAL COMMUNICATIONS.

ETHER DEATH: A PERSONAL EXPERIENCE IN FOUR CASES OF DEATH FROM ANÆSTHETICS.

Read before the Philadelphia County Medical Society, February 9, 1881,

BY JOHN B. ROBERTS, M.D.,

Lecturer on Anatomy and on Operative Surgery in the Philadelphia School of Anatomy.

IT has been my fortune on four occasions to witness the occurrence of death during or immediately after the production of anæsthesia. In three of these instances sulphuric ether was employed; in the other, bromide of ethyl. In none of the cases, however, was I the administrator of the anæsthetic, but merely a by-stander or an assistant in the efforts at resuscitation. On numerous other occasions I have seen patients almost die from the effects of chloroform or other anæsthetics, who were fortunately revived by well-directed treatment. These circumstances have been called to mind, many times with considerable anxiety, when resorting to anæsthesia in the performance of surgical operations; and I therefore desire to report in full the case of ether death which recently occurred under my observation. Afterwards I shall refer to the three other cases spoken of, which have been already recorded by myself or others; and finally I shall offer some remarks as to ether deaths in general.

Case I.—Death from Cardiac Failure after Etherization.

The patient, a woman, aged 26 years, was admitted to Dr. R. J. Levis's ward, in the Jefferson College Hospital, with fibrous anchylosis of the right knee and hip, occurring subsequently to arthritis, considered by her physician to be rheumatic in character. The trouble had existed about a year, and Dr. S. L. West, of Wilmington, had treated her also for chronic uterine disease, rheumatism, cardiac palpitation, and nervous prostration.

After she had been in the hospital for two days, she was placed upon the operating-table (on January 20, 1881) for the purpose of having the fibrous joint-adhesions broken up by passive motion. When she was brought into the room she was frightened and very nervous, which was attributed partly to the fact that, before she entered, a very boisterous sailor, just recovering from ether, was removed. She was asked if she had ever taken ether, and replied that she had often done so. I then, as Dr. Levis's assistant, placed my ear to the cardiac region to ascertain the condition of the heart before the resident surgeon began etherization. As I did so, she exclaimed, "I have a bad heart," referring, no doubt, to cardiac symptoms, such as palpitation, which she had experienced. Of these symptoms I had known nothing, and auscultation was begun merely as a precautionary measure. Her remark, therefore, made me listen with more care, perhaps, than I otherwise would have done. The heart's action was rapid and tumultuous, as would be expected from her excited condition, and I thought I detected an indistinct murmur. Nothing sufficient to contra-indicate anæsthesia appeared to be present.

The resident physician (Dr. York) then began to etherize slowly, using Squibb's ether poured on a couple of towels. The patient did not at first breathe very deeply, but in a short time passed into a condition of anæsthesia without the least struggling. Dr. Levis then broke up the adhesions of the hip and knee, using a mallet to loosen the patella, which was quite firmly attached to the condyles. In these manipulations I assisted, being at the foot of the bed, and, hence, away from observation of the patient's respiration and pulse.

Soon the anæsthetic was suspended, and an extension-apparatus of adhesive plaster adjusted to the limb. The time occupied in etherizing, operating, applying the plaster, and removing the patient to the ward was about half an hour (2 P.M. to 2.30 P.M.). There was no vomiting.

After the limb had been placed in position, and just before the woman was taken from the operating-table, while she appeared to be quietly sleeping, I placed my finger upon the right pulse and was astonished at its feebleness and frequency. I immediately called the resident's attention to the fact, and informed the operator of the unfavorable condition of circulation.

We all followed her bed to the ward. She had not awakened up to this time, but was unconscious, and was breathing quietly and regularly. If it had not been for the cardiac depression, nothing would have given the alarm or caused apprehension. The pulse was feeble and beating 180–200 per minute, while the regular, quiet respirations numbered about 22. As the symptoms did not improve, twenty drops of tincture of digitalis with enough whisky to fill the syringe twice (f℥j approximately) were given hypodermically at 2.35 P.M. At 2.42 P.M. an enema of about six fluidounces of whisky was administered, and twelve minutes later (2.54 P.M.) I gave a hypodermic injection of tincture of digitalis (♏x) and sulphate of atropia (gr. $\frac{1}{30}$).

Then the faradic battery, which had been brought to the bedside, was suggested as a remedial agent, but, as the respiration was continuing comparatively unaffected, it was only applied for a short time, with one pole to the neck, the other in the præcordial region. After the hypodermic of digitalis and atropia I thought the pulse became a little stronger, but this observation may have been incorrect. At any rate, in a short time the progressive cardiac failure was so patent that at 3.10 P.M. ten minims of tincture of digitalis were injected by me into the subcutaneous tissue of the breast. Ten minutes later (3.20 P.M.) atropia sulphate (gr. $\frac{1}{60}$) was injected into the mammary region, and an enema of strong hot coffee (f℥viij–x) administered.

Before these remedies were given, cyanosis of the hands was exhibited, and at about the same time respiration became somewhat irregular. The pupils were not dilated.

The patient continued to sink, and at 3.32 P.M., when respiration was almost gone, a final hypodermic injection was given, consisting of atropia, gr. $\frac{1}{60}$; tincture of digitalis, ♏x; whisky, ♏xxx. At 3.35 P.M. the patient died quietly, without having shown signs of consciousness, and, I think I am correct in saying, without voluntary motion of the limbs, from the time anæsthesia was produced.

After death an effort was made to determine the exact quantity of ether given. A new can of Squibb's ether had been opened before etherizing the previous patient, who was a powerful sailor requiring amputation of a finger, and to whom an additional quantity of the anæsthetic was given after he had partially regained consciousness, in order to insert the sutures and dress the wound. It was the noise of this boisterous patient, before he left the operating-room, that increased the alarm of the unfortunate patient who followed him. After the man and the woman had been operated upon, it was found that only six ounces avoirdupois of ether had been removed from the can. It seems fair, then, to estimate the amount taken by the woman, to whom it was not given with as free a hand, at two and a half or three ounces avoirdupois, or about three and a half fluidounces.

I may state also that the quantities of digitalis and atropia were accurately measured by the piston of the hypodermic syringe; but, as is well known, these are frequently marked incorrectly.

The autopsy was made by Dr. Morris Longstreth, the pathologist of the Hospital, twenty-one hours after death.

There was a small amount of pleural, but almost no pericardial, effusion. The heart-cavities contained fluid blood, and neither ventricle was firmly contracted. The right auricle was slightly dilated; the left thickened, and its cavity dilated, especially in the auricular appendage. The right ventricular wall was thickened and the cavity dilated, especially towards the artery. The left ventricle showed no special change. The coronary veins were filled with blood, and two spots of ecchymosis were seen on the surface of the heart. The cardiac muscle was much softened. The valves of the right side were normal, though the auriculo-ventricular orifice was dilated. The mitral leaflets were normal, with the exception of one or two patches of thickening; the orifice, however, was dilated. The aortic valves were competent, and showed no evidence of thickening, though a small fenestra was found in one leaflet. The aortic sinuses seemed pouched. The oval fossa presented an oblique opening large enough to allow the passage of an ordinary wooden lead-pencil.

Some remains of the thymus gland were visible. The lungs crepitated poorly, and were congested posteriorly; anteriorly they were pale in color. No evidence of œdema. Both lower lobes posteriorly were softened, but not granular. Section of the lung-structure showed no other conditions. The spleen presented no special change. No odor of ether was perceptible about the viscera. Left kidney was irregular, moderately firm, and deeply congested, showing, on section, no alteration of cortex, but having an adherent capsule and some subcapsular ecchymoses. The surface was but slightly granular. At several points in the pyramidal portion areas of softening from which drops of mucoid material could be pressed were seen. Right kidney was softened, and presented same condition as noted in left.

Liver had smooth surface, was moderately congested and somewhat softened. On the anterior surface of the right lobe, near the middle, was situated a non-protruding cyst, an inch in diameter, filled with dirty-brown gelatinous material. The interior of this cyst was lined with an opaque, smooth, white membrane. The ovaries showed marked cystic disease; the cyst of the left ovary was as large as a small walnut, and contained blood. A catheter was introduced into the bladder to obtain some urine for analysis, but the bladder was empty.

A marked feature of the examination was the fact that almost every organ presented some noticeable change; but in none were these alterations characteristic of any distinct disease.

Microscopic Examination. — The heart-muscle presented evidences of granular and fatty degeneration; and none of the fibres

showed normal striation. On teasing out the fibres, large numbers of oil-drops were liberated.

The appearances presented by sections of lung-tissues were very similar to those of embolism. The smaller arteries and capillaries were packed with blood-corpuscles and rendered tortuous; yet no embolus of fat or blood could be found. The lung epithelium showed no changes, but the peribronchial connective tissue was increased.

The capsule of the kidneys showed no evidence of thickening. The arteries appeared slightly enlarged and their walls thickened. The capsules of the Malpighian bodies were thicker and firmer than usual, and around them nuclear proliferation had taken place. Within the Malpighian body proliferation was likewise occurring, similar to that seen in glomerulo-nephritis. The intertubular tissue was slightly swollen, and for the most part its nuclei were more distinct and numerous than normal. The convoluted tubes were slightly irregular in outline; their basement membranes appeared unchanged; and their epithelia were swollen, markedly granular, with nuclei in most instances indistinctly visible.

The capsule of the liver was thickened, and showed active proliferation from its under surface into the interlobular connective tissue. In many of the portal canals, in the deeper portions of the organ, the connective-tissue increase was even more marked than noted above. The liver-cells appeared slightly shrunken and highly granular; their nuclei were visible, but stained poorly, and in some instances appeared almost vesicular. None of the cells showed any fatty infiltration, but on the contrary presented appearances of fatty degeneration, as evidenced by numerous small oil-globules. No changes were noticed in the interlobular vessels or ducts.

Case II.—Sudden Death after Administration of Chloral and Etherization, prior to Amputation of the Thigh.

In 1872 I witnessed a death from ether, which occurred under the following circumstances:

A man, aged 35 years, was to be subjected to amputation, for necrosis of the femur accompanied by many sinuses discharging very large amounts of pus. Twenty grains of chloral were administered immediately before the etherization, and a large amount of the anæsthetic was apparently given in a short time. In fact, the ether was pushed. Just as the amputation was to be commenced, collapse occurred and immediate death ensued.* I believe no autopsy was made. As I merely witnessed the fatal issue, I have no means of giving more accurate notes. This was at a time previous to the introduction of the elastic bandage, which was therefore of course not applied to the limb. Hence, embolism, due to forcing pus or clots into the vessels, which suggests itself, is not tenable as the cause of death.

Case III.—Death from Œdema of the Lungs after Anæsthesia by Ether.

The other case of ether death, or rather of death occurring subsequently to, but not immediately after, etherization, of which I have personal knowledge, took place in 1876. The history in brief is as follows:

A youth, aged 19 years, who had marked angular spinal curvature from caries, was admitted by Dr. T. G. Morton into the Pennsylvania Hospital for treatment of an anchylosed right knee. He was anæsthetized with two and a half or three ounces (fluid?) of ether, and subjected to tenotomy and forcible straightening of the limb. The apparatus made for the case was adjusted to the limb, and the patient, by this time conscious, was removed to his private room. He had been under the anæsthetic influence not over twenty minutes, there was no vomiting, no marked evidence of mucus collecting in the trachea or fauces, and he rapidly recovered consciousness when the ether towel was taken from his face. Fifteen minutes after removal to his room he showed alarming symptoms of asphyxia, such as cyanosis and impending cessation of respiratory motion. Dr. W. B. Hopkins and I endeavored to relieve him by depressing the tongue and dashing cold water in his face, which, however, only produced violent respiratory efforts. As the condition grew worse, and frothy, blood-stained mucus expelled from the fauces gave evidence of pulmonary engorgement, which was accompanied by labored cardiac action, we applied dry cups to the chest and drew about eight fluidounces of blood from the radial artery. Respiration and circulation seemed to improve somewhat from these measures; but he continued to sink, despite the subcutaneous injection of carbonate of ammonia and whisky, and died one and three-quarter hours after anæsthesia. Dr. Hopkins had seen that he had perfectly recovered from the anæsthetic sleep before removal from the operating-room, and even during the stage of asphxyia the patient was quite rational.†

* See Morton's Report on Ether Deaths, in American Journal of the Medical Sciences, October, 1876, p. 415.

† For a more complete account see Dr. Morton's paper in Amer. Jour. Med. Sci., October, 1876, p. 411.

The autopsy showed a deformed thorax, due to the antecedent vertebral caries, old pleural adhesions between the lung and parietes, and the lower part of the right pleural cavity obliterated by firm adhesions between the diaphragm and costal pleura. The pleural cavities showed much serum infiltrating the meshes between the adhesions; and the lungs, pitting on pressure, exuded on section large amounts of frothy fluid, as from a saturated sponge. The lung-tissue was fairly crepitant, and floated in water. The heart-cavities contained fluid blood, while the valves and muscular tissue were normal. The great vessels at the base of the heart were healthy. No foreign body was found in the trachea or large bronchi. The kidneys were not examined.

Dr. Morton considered this patient to have died from "the mucous secretion and serous effusion which invaded every available space, thus suffocating the patient." This fatal pulmonary œdema was of course due to the inhalation of ether, since the patient was in good health when subjected to operation.

The fourth death from anæsthetics which I have seen has already been reported by me,* and occurred during the administration of bromide of ethyl. A short account of the circumstances, however, may be allowable at this time.

Case IV.—Death occurring during the Use of Bromide of Ethyl as an Anæsthetic.

A boy of 18 years was received into Dr. R. J. Levis's ward of the Jefferson College Hospital for lithotomy. He was in bad condition, and the operation was therefore delayed until tonics and corroborative treatment could be employed in the endeavor to improve his general health. Finally, upon the approach of summer weather, after several weeks' stay in the ward, he was placed upon the operating-table. He was given some whisky and fifteen grains of quinine on account of his debility, and the inhalation of bromide of ethyl begun. He was exceedingly nervous and agitated before he commenced inspiring the anæsthetic, and struggled a good deal during its administration. Four fluidrachms of bromide of ethyl had been poured on the towel in divided quantities, when the cutaneous incision was made. Just then it was noticed that respiration was imperfect, and the towel was removed from his face. The lips were pinkish, and no marked cyanosis was noticed. As I was holding the lithotomy staff, I am unable to say what was the condition of the pulse; and the observation of the administrator of the anæsthetic is not recorded. A few feeble inspiratory efforts took place, but inversion of the patient, nitrite of amyl inhalation, artificial respiration, galvanism, and drawing forward the tongue were of no avail. The pinkish lips would perhaps point to death from syncope, but the respiratory symptoms were the first to attract attention. It may be that the pulse failed a moment previously. The autopsy showed a slight odor of the bromide of ethyl emanating from the thoracic and abdominal cavities; old pleuritic adhesions; areas of consolidated lung, containing cavities, due to catarrhal pneumonia; some dilatation of the heart, and kidney changes. The microscope showed the beginning of renal inflammation, and discovered such atrophic alterations of the heart-fibres as are often present in connection with advanced lung disease; but there was no fatty degeneration of the cardiac muscle.

Such, then, are the clinical features of the four cases of death from anæsthesia which I have witnessed. Though the pathological features of these cases and the physiological actions of ether and other anæsthetic agents could be much better discussed by other members of the Society than myself, I desire to make some general remarks on the subject of ether death. First, as to the case that forms the text of my paper. Was she a proper subject for etherization? was the anæsthetic given properly? was the after-treatment properly conducted? how did ether kill her? are questions that we must study thoughtfully, and which I offer for thorough discussion and criticism by the members of this Society.

Was she a proper subject for etherization? The patient's heart was ausculted immediately previous to the administration, and nothing found to contra-indicate ether. Indeed, even if marked organic disease be detected in patients about to be anæsthetized, it is not regarded as an absolute bar to the administration. Ether is frequently given to such patients, and J. W. Haward, in advocating the superiority of ether to chloroform, states that he has given chloroform to persons with extensive heart disease.† Kappeler and Reeve reject‡ the idea that fatty degeneration of the heart is an important factor in chloroform deaths; and it would be expected to be a much less important factor in ether death. Hence, even if valvular disease or fatty degeneration had been discovered, it would not have precluded the administration. Dila-

* Philadelphia Medical Times, July 17, 1880, p. 521.

† Medico-Chirurgical Transactions, 1872, p. 8.

‡ American Journal of the Medical Sciences, July, 1880, pp. 201, 202.

tation of the heart is probably a more dangerous condition than any other when anæsthetics are to be administered. The woman had been etherized twice previously, and, according to her husband, by a much larger amount of ether than given on the fatal occasion. Her physician, Dr. S. L. West, tells me that he etherized her on the last occasion, which was fifteen months ago, without any unpleasant effects; but I am not sure that this was previous to her rheumatic attacks. Since her death he has written to me that she had shown cardiac and renal symptoms while under his care, but that he had examined the urine twice without discovering albumen or sugar. As we had auscultated her heart and found no special lesion, as her physician had discovered no albuminuria, and as she had taken ether twice previously without trouble, she *was* a proper case for etherization. It was negligent, however, in us at the time of operation not to inquire into the condition of the kidneys; for then we did not know of Dr. West's negative analysis. Hundreds of patients are etherized every year without a urinary analysis being made; among whom some certainly have Bright's disease. Although the discovery of albuminuria would not have deterred us, as the operation could not have been performed without it, still, as it is well known that renal disease prevents the ready elimination of the anæsthetic, every surgeon should take the preliminary precaution of examining the urine at least in cases of chronic disease.

Was the ether properly given? The amount used was small, it was given, sprinkled upon two towels, by a resident who was accustomed to using ether, it was of Squibb's manufacture, and produced during the inhalation nothing to attract the administrator's attention. Hence it may be assumed that this question can be answered affirmatively.

It seems, indeed, that ether could hardly have been administered to any patient and under any circumstances better calculated to dispel anxiety. There was no special heart-lesion observed, there had been no albuminuria, there was no cutting operation to cause shock, the quantity of ether was small and of the best quality. Yet she died.

Was the treatment of the patient after dangerous symptoms occurred conducted properly? I think we may say that it was. The only indication of danger observed was the rapid and feeble pulse; the respiration was not bad, and the unconsciousness appeared to be merely such as is often seen after full anæsthesia. In fact, one gentleman remarked that she merely seemed to be sleeping off the anæsthetic. The indication for treatment then seemed to be cardiac stimulation, which was attempted by digitalis and whisky. The main reliance was upon the former, for the enema of whisky (f℥vj), though comparatively large, would not be absorbed very rapidly; and the spirit given hypodermically was in small amounts and at considerable intervals. It is well known that belladonna is claimed as advantageous in shock and in respiratory failure: hence the atropia given was not inappropriate, although respiration was good and not irregular until near the fatal termination. Morphia was suggested, but the comatose condition of the patient seemed to me to contra-indicate its use. Nitrite of amyl and the battery, which was indeed used for a short time, were, I believe, appropriately rejected. Is it possible that hot-air baths would be available in such conditions by causing cutaneous elimination of the anæsthetic? I know nothing clinically on this point, which I merely throw out as a suggestion.

How did ether produce death in this instance? The recent report to the Scientific Grants Committee of the British Medical Association* states that the chief dangers in anæsthesia are—1, sudden stoppage of the heart; 2, reduction of blood-pressure; 3, alteration of the pulse-respiration ratio; and, 4, sudden cessation of respiration. The danger from ether, it is said by the same report, approaches from the pulmonary rather than from the cardiac side. I believe that, as a rule, danger from ether is shown by the respiration, and I always in etherizing have watched the respiration with more care than the pulse; but this custom, which is general among surgeons, I now feel is founded upon error. The patient whose case I am studying did not present any special respiratory symptoms until more than a half-hour had elapsed from the time that the circulatory symptoms presaged imminent death. She was evidently dying long before respiration showed any sign of her danger. The

* British Medical Journal, December 18, 1880, p. 971.

pulse-respiration ratio was greatly altered, for with a feeble pulse beating 180–200 per minute the respirations were very little above normal. It was this rapid feeble pulse that struck me with astonishment, when every other clinical appearance seemed to indicate safety.

We have become too much inclined to look upon ether as having no depressing effect on the heart. If we examine clinical evidence and that deduced from experiment, we shall find that ether does at times depress the heart, but much less actively than chloroform. The Committee of the Royal Medical and Chirurgical Society stated in 1864 that ether exerts but a very slight depressing influence on the force of the heart's action.* This authoritative statement of the slightly depressant effect of ether on the heart, which has been reaffirmed and repeatedly proved, has led us to look upon it as almost an impossible thing for ether death to occur from cardiac failure. Many readers perhaps have neglected to continue the perusal of the above report to the modified statement that "ether destroys life partly by enfeebling the action of the heart, but chiefly by arresting the movements of respiration."†

Kappeler says it is by no means apparent that ether death in human beings always begins by disturbance of respiration and proceeds from the respiratory system.‡ Dr. J. C. Reeve believes it to be an error to think that there is a difference in regard to the actions of chloroform and of ether upon the nervous centres of respiration and circulation,§ and says that Kappeler reports three instances of sudden cardiac death from ether. In speaking of the comparative safety of ether, ethidene dichloride, and chloroform, the report to the British Medical Association asserts that the circulation is more readily established when its cessation is due to ether, than to the two other anæsthetic agents ;‖ which statement infers that ether may produce dangerous cardiac depression.

This evidence all tends to show that surgeons lay too much stress on the respiratory action of ether, and perhaps administer it carelessly because they feel that respiration is easily watched during anæsthesia, and that artificial respiration can immediately be instituted. Some writers have attributed perfect safety to ether, and have even gone so far as to state that if complicated instruments are avoided and nothing but the towel and sponge used there is absolutely no danger.¶

All this is wrong. Every man should feel that anæsthesia, which places many of the animal functions in abeyance, is akin to death, which is merely the additional obliteration of circulation and respiration. All anæsthesia is dangerous, though the degree varies with the agent.

There is certainly no doubt that death in the instance before us was due to ether given to a patient not specially obnoxious to the agent, and given in the usual manner ; and that death resulted directly from cardiac depression without respiratory symptoms.

In glancing over the four cases presented for your consideration, I may make the following summary. The woman (Case I.), whose death I have been discussing, certainly died because of the influence of ether upon the heart ; the man (Case II.), whose sudden collapse occurred after the ether had been pushed, possibly succumbed to its cardiac depression also, though the notes are not sufficient for an accurate determination ; the young man's death (Case III.) was due to œdema of the lungs resulting secondarily from etherization ; while the bromide of ethyl case (Case IV.) presents a history pointing to cardiac paralysis as the cause of the fatal issue. In the first two and the last case death was primary, because the patients never awoke from the anæsthetic sleep ; in the third it was secondary, because the asphyxia due to pulmonary œdema supervened after consciousness had returned.

How are ether deaths to be avoided ? This is, after all, the question of paramount importance, that forces itself upon every one. It has been suggested by Dawson of Leeds** that the fatal effects of ether are due to the pulmonary circulation being impeded by capillary contraction caused by the cold produced by the ether. Then embarrassment of the right heart occurs because of the unusual resistance it has to

* Medico-Chirurgical Transactions, 1864, pp. 333, 334.
† Ibid., p. 351.
‡ See Review in Amer. Jour. of Med. Sci., July, 1880, p. 209.
§ Cincinnati Lancet and Clinic, October 30, 1880, pp. 387, 388.
‖ British Medical Journal, December 18, 1880, p. 971.
¶ Jonathan Hutchinson, British Med. Jour., November 6, 1880, p. 760.
** British Medical Journal, March 2, 1878, p. 289.

overcome. These and other theories belong to physiology rather than to clinical surgery; and I shall not stop to discuss them. It would seem that death from ether anæsthesia may occur at times when there is no reason in the patient, or in the method of administration, to expect such a result. It is imperative upon us all, however, to take every precaution to avoid such an occurrence; and yet I am convinced that no powerful drugs are administered as carelessly, as recklessly, and by as incompetant hands as anæsthetics. Let every one remember that an anæsthetized patient is really a patient with one foot in the grave, and he will feel the responsibility that rests upon him when he gives an anæsthetic. Lungs, heart, and urine should always be examined before the administration, for, though lesions here should not preclude anæsthesia when necessary, the knowledge of such lesions would enforce caution and care. I have seen persons profoundly anæsthetized without the least examination or inquiry having been made as to these organs. I have seen them left by the physician before they had regained perfect consciousness. I have seen ether given by persons who knew nothing of its dangers or the methods of averting evil results. Every member of this Society, including myself, has probably been guilty of these things; and yet we are astonished when a patient dies from ether. The wonder really is that ether deaths are not more frequent than they are.

Anæsthesia is partial death, and one step further is death. Hence the man intrusted with the ether towel at an operation should be the most skilful of all the assistants. In many instances more skill is required in the administration of the anæsthetic than in the performance of the operation. Yet this duty is generally relegated in hospitals to the junior residents, and in private practice often to the nurse or a layman. It would be useless and improper for me to attempt to instruct this body in the method of giving anæsthetics, for you all have given them frequently. The only point I desire to enforce upon your attention is, "Take care. All anæsthesia is dangerous." Ether anæsthesia is less so than chloroform anæsthesia; and hence I believe, as I have elsewhere written,* that chloroform should be rejected entirely as an anæsthetic in practical surgery. If anything safer than ether is found, we must reject ether.

Anæsthesia is undoubtedly essential in surgery, medicine, and midwifery, and is properly resorted to in cases of cardiac, pulmonary, and renal disease when necessity demands it. In many cases the risk without it would be greater than the risk with it; but it should be regarded as a powerful agent for evil as for good. Unfortunately, we have, as yet, no infallible means of predetermining which cases will be instances of death from anæsthesia.

A report of all the ether deaths that have occurred in the last few years would be a valuable aid in studying the fatal action of the agent, and I have therefore appended to this paper a list of those that I have found recorded since January, 1872.

In the *British Medical Journal* for March 2, 1878, pp. 290, 291, Mr. Cawtley Dawson gives the histories of eighteen cases of so-called deaths from ether, occurring during the years 1873, '74, '75, '76, '77. In this list, however, he records some cases which should not properly be claimed as deaths from ether. He eliminates nine, and accepts the remaining nine cases, in which he thinks ether was the cause of death. Of these he gives a tabulated statement. Among the number rejected by him is the case reported by me (Case III.) as a death from œdema of the lungs after ether. He also rejects the case marked No. 14 in his list, for a similar reason,—namely, that death was caused by previous pulmonary trouble aggravated by ether. These should certainly be regarded as deaths resulting from etherization. His case No. 13 was that of a patient in whom cerebral hemorrhage was found after death. This appears from the short account to have been caused by the etherization, and should not be rejected. These three cases, added to the nine which he accepts, would make twelve instances of ether death; but I reject his accepted case No. 16, because chloroform was mixed with the ether, and the woman died one minute after the beginning of inhalation, possibly from the small amount of chloroform in the mixture.

Hence I have from him eleven cases of primary and secondary ether death, of which No. 1 is Case III. of my present paper. To these the two other ether cases in this paper may be added, making thirteen cases in all.

Continuing my search, I have found reported during 1878, 1879, 1880, seven other cases.

I. *British Medical Journal*, May 18, 1878, p. 730. Man, aged 50 years; strangulated hernia for four days; London Hospital. Ether,

* Transactions of the Medical Society of the State of Pennsylvania, 1880, pp. 152, 153.

1½ ounce, given for examination of hernia; respiration ceased, and pulse beat for one and a half minutes afterwards. Left ventricle contracted; heart apparently healthy; lungs extremely congested; kidneys slightly granular, but not congested; commencing peritonitis.

II. Turnbull's *Artificial Anæsthesia*, 2d ed., p. 47. Mr. G. W. Callender, surgeon to St. Bartholomew's Hospital, London, told author of a case occurring in that hospital before his visit to America. Patient was admitted for intestinal trouble. This may be the same case as No. III. below.

III. *London Lancet*, Am. ed., Nov. 1880, p. 420. Reported by R. N. Hartley; operator, Mr. Teale. Man, aged 66 years; intestinal obstruction; ether by Clover's small inhaler, a little over one ounce. After fifteen minutes, while surgeon was operating for colotomy, the man vomited, took a deep inspiration, then appeared about to vomit again, but sank on pillow and died; pulse was good when he first vomited. This seems to be a death from interference with respiratory action.

This may be the same case as that mentioned above by Turnbull.

IV. *British Med. Jour.*, April 12, 1879, p. 562. Girl, 8 years; strabismus; Moorfields Royal Ophthalmic Hospital. Ether and a little chloroform; discharged two or three hours after operation, and removed to home by mother; died collapsed about seven hours after operation. No autopsy given. Not established as a true ether death.

V. *British Med. Jour.*, February 7, 1880, p. 215; from *Boston Med. and Surg. Jour.* for January, 1880. Man, 55 years; hip-injury; ether for diagnosis; in Providence; respiration stopped after fifteen minutes of inhalation. Serum beneath arachnoid, valvular disease of heart, cystic degeneration of kidneys.

VI. *British Med. Jour.*, February 7, 1880, p. 215; from *Canada Lancet*. Lady; extraction of teeth; scarcely one ounce used; death from paralysis of the heart.

VII. *Cincinnati Lancet and Clinic*, October 30, 1880, p. 380. Dr. N. P. Dandridge's case. Woman, 43 years; necrosis of femur; had been etherized twice, only a short time before, for same disease in same hospital; operation begun, when it was noticed that there was no respiratory motion and no pulse; reacted slightly, but died in about two and a half hours. Lungs healthy, except a few emphysematous blebs; heart-muscle and valves apparently normal; kidneys showed no structural change, but were anæmic.

Of these seven cases, Nos. II. and III. are probably the same, and No. IV. is not a pure ether death, because chloroform was also given: hence we have really but five cases properly attributed to ether. These five, added to the thirteen cases mentioned previously, give eighteen cases of death, fairly attributed to the effects of ether, that have occurred between the years 1873 and 1880 inclusive.

Kappeler, in his article on Anæsthetics in Billroth and Luecke's "German Surgery,"* gives thirteen fatal cases occurring subsequent to 1872;† but I am unable at present to refer to the original work, and cannot compare the cases with Dawson's and my own list.

In *British Med. Jour.*, December 18, 1880, p. 997, Mr. Burton and Dr. Jacob give eleven cases of death occurring during and after administration of ether in Great Britain and Ireland from 1870 to 1880. These correspond in many instances, of course, with Dawson's list.

BIBLIOGRAPHY.

J. Warrington Haward. On Ether and Chloroform as Anæsthetics. *Medico-Chirurgical Transactions*, vol. lv., 1872, p. 5.

Report of Committee of Royal Medical and Chirurgical Society, on uses and physiological, therapeutical, and toxical effects of chloroform. *Medico-Chirurgical Transactions*, vol. xlvii., 1864, p. 323. (Gives effects, etc., of ether also.)

Cawtley Dawson. Deaths from ether. *British Medical Journal*, March 2, 1878, p. 289.

Report on the Action of Anæsthetics to the Scientific Grants Committee of the British Medical Association. *British Medical Journal*, December 18, 1880, p. 957.

Robert N. Hartley. Case of sudden death during ether administration. *Lancet*, American edition, November, 1880, p. 420.

Robert Saundby. Administration of anæsthetics. *Lancet*, November 20, 1880, p. 810.

Joseph Mills. On watching the pulse during the administration of chloroform (criticism of Saundby's paper). *Lancet*, December 4, 1880, p. 912.

N. P. Dandridge. Death from the effects of ether. *Cincinnati Lancet and Clinic*, October 30, 1880, p. 380.

Cincinnati Medical Society. Discussion on Dandridge's paper. *Id.*, p. 385.

Report of Committee of Boston Society for Medical Improvement, on alleged dangers which accompany the inhalation of sulphuric ether. Published by David Clapp, Boston, 1861. (From Turnbull's *Anæsthesia.*)

Dr. J. C. Reeve. Anæsthetics: their position and prospects. *American Journal of the Medical Sciences*, July, 1880, p. 193.

Laurence Turnbull. Advantages and Accidents of Artificial Anæsthesia. Second edition. Philadelphia, 1879.

* Stuttgart, 1880.

† American Journal of the Medical Sciences, July, 1880, p. 208.

ETHYLENE BICHLORIDE AS AN ANÆSTHETIC AGENT; WITH A CONSIDERATION OF ETHYLENE METHYLETHYLATE, ETHYLENE ETHYLATE, ETHYL NITRATE, AND ETHYLIDENE BICHLORIDE.

BY EDWARD T. REICHERT, M.D.

(Continued from page 522.)

THE Effect on the Arterial Pressure.—When the ethylene is given by inhalation and by the modes already described, the arterial tension is but little affected during the first few minutes, unless the vapor be given in a very concentrated condition (Exp. X., XII., and XIII.), and then there is a very rapid decline, equalling nearly one-third of the normal, which is followed by a rise of half this amount, and then by a subsequent fall. In experiments where the air was heavily laden with the vapor (Exp. XIII.) essentially the same result occurred, but in the others, where the vapor was given more diluted, the fall of pressure is not nearly so marked, and the subsequent rise may nearly reach or even go above the normal. In Exp. XI., XII., and XIII. the animals were curarized to obviate any complications of the respirations, and the artificial respiratory apparatus, of course, employed. In Exp. X. the cone was kept almost saturated with the ethylene, and in Exp. XII. and XIII. sponges were placed in the bottom of the bottle, which were kept continually moistened with the liquid, and the air being driven through them, thus necessitating the absorption of considerable of the anæsthetic by the current of air.

Exp. X.—Rabbit.

Time. M. Sec.	Pressure. Mm.	Remarks.
1.	56	
		Commenced inhalation from a cone, which was kept wet throughout the experiment.
.07	52	
.32	39	
.42	32	
2.07	42	
.27	46	Respirations almost imperceptible.
.47	42	
3.07	40	
.27	46	
.47	45	
4.07	45	
.27	44	
.47	41	
5.07	41	

Time. M. Sec.	Pulse in ten sec.	Remarks.
5.47	45	
6.07	44	
.47	40	
7.07	42	Added more ethylene to inhaler.
10.20	42	
11.20	42	
.55		Added more ethylene to inhaler.
12.15	41	
.55	39	
13.40	38	
17.	37	
20.	36	
.30		Added more ethylene to inhaler.
21.	33	
23.	31	
24.	31	
25.	28	
26.	28	
27.25	27	No pulse-curves are distinguishable on the tracing.

Exp. XI.—Rabbit.

Time. M. Sec.	Pressure. Mm.	Remarks.
		Animal curarized.
1.	66	
		Commenced inhalation by means of the Woulfe bottle, in the bottom of which was placed about a drachm of ethylene.
.12	64	
.20	64	
2.20	63	
.40	63	
3.	61	
.20	61	
4.	61	
.40	56	Animal completely anæsthetized.
6.40	56	
7.	60	
.40	60	
8.	62	
.40		Dropped thirty minims ethylene in bottle.
9.	58	
.20	60	
11.20	56	
.30		Dropped thirty minims ethylene in bottle.
.40	57	
12.	58	
.10		Dropped thirty minims ethylene in bottle.
.40	53	
13.	48	
.10		Dropped thirty minims ethylene in bottle.
.20	47	
.40	51	
14.	45	

Exp. XII.—Rabbit.

Time. M. Sec.	Pressure. Mm.	Remarks.
1.	45	
.05		Commenced inhalation, using the Woulfe bottle as before.
.25	44	
.45	46	
2.05	37	
.25	31	
.45	43	
3.05	45	Animal completely anæsthetized.
.25	46	
.45	47	
4.05	53	
.25	50	
.45	45	
5.05	41	
.25	40	
.45	37	
6.05	33	
.45	31	
7.45	31	
9.45	30	
10.05	29	Added ethylene.
.45	29	
11.25	28	Added ethylene.
12.05	26	
.25	23	
.45	22	
13.45	20	
14.25	18	
15.05	17	
.45	15	No pulse.

Exp. XIII.—Rabbit.

Time. M. Sec.	Pressure. Mm.	Remarks.
1.	54	
.10		Woulfe bottle used in which sponges were placed wet with the ethylene.
.20	54	
.45	52	
2.40	48	
3.20	44	
.40	48	Added more ethylene.
4.	48	
.40	49	
5.	47	
.20	44	
.40	50	
6.	52	
.20	48	
.40	48	
7.	44	
.20	31	
8.	25	
.40	32	
9.	32	
.20	25	
10.	19	
.40	17	
.	15	

From these results it will be seen that the most pronounced effect of the ethylene on the blood-pressure when given by continuous inhalation, whether in a dilute or concentrated form, is to produce a diminution to zero, but which is transiently interrupted by a rise towards the normal, which is various in extent and may go even above it (Exp. XII.). As these changes in the pressure occur in curarized animals, any effect which altered respirations or muscular movements might have is obviated by this toxic condition; but as this diminution of pressure is accompanied by a frequent pulse and diminished pulse-curves, which latter has already been pointed out to be due to a depressed condition of the cardiac power, it is at once indicated that the fall of pressure is cardiac in its origin. However, several experiments made on animals with cut pneumogastrics gave results identical with those already recorded on normal animals. It therefore remained but to show whether the heart or vaso-motor system (or both) was the cause of the above results. Consequently, the heart being the most probable agency, experiments were made on animals in which the pneumogastric nerves and the cervical spinal cord were cut, which would necessarily sever all nervous connection with the heart, and whatever results would then follow would evidently be due to a direct cardiac action or to one on the peripheral vaso-motor mechanism.

Exp. XIV.—Rabbit.

Time. M. Sec.	Pressure. Mm.	Remarks.
1.	21	Cut the pneumogastrics and cervical spinal cord.
.05		Inhalation by Woulfe bottle.
.15	19	
.25	21	
.45	17	
2.05	18	
.25	17	
.45	15	
3.05	14	
.25	13	
.45	12	
4.45	12	
5.25	12	No pulse traced.

The fall of pressure still occurring, the following experiment was made to determine if the vaso-motor peripheries were concerned, and, in order to accomplish this object, the pneumogastric nerves and cervical spinal cord were severed and the

thoracic aorta ligated, this latter operation cutting off communication of the blood with the major part of the vascular capillaries, and practically (for our purposes) annihilating the vaso-motor peripheries, while the section of the cord practically destroys the vaso-motor centres.

Exp. XV.

Time. M. Sec.	Pressure. Mm.	Remarks.
1.	53	Cut cord in upper cervical region; cut vagi and ligated thoracic aorta.
.05		Inhalation by Woulfe bottle.
.15	55	
.25	48	
.35	34	
.45	28	
2.05	23	
.25	25	
.45	24	
3.05	21	
.25	20	
.45	18	
4.25	16	
.45	15	
5.05	14	
6.25	13	
7.25	12	
8.25	11	
9.	10	
10.	8	No pulse traced.

The fall of pressure being still as marked in this last experiment, it must be concluded that the depression of the cardiac power is the cause of it, and, in further corroboration of this, it has been found that in animals whose thoracic cavity was opened the direct application of the ethylene to the heart caused its slowing or immediate arrest, and, further, that in animals slowly poisoned an autopsy revealed the heart arrested in diastole. It is probable, though, that the transient rise of pressure which interrupts the fall in normal animals is vaso-motor and both centric and peripheral in its origin, because it did not occur in either of the last two experiments; yet it was well marked in an experiment made on an animal with a cut cervical cord which has not been recorded in this paper.

In looking over the above series of experiments it is interesting to note that, although the drug is a direct and decided cardiac depressant, this organ is capable of bearing a considerable amount of depression before its complete paralysis, and, as was stated early in the paper, the respirations are always the first to succumb, and death is caused in this way. And it was further found that if after the complete cessation of the respirations the artificial respiration-apparatus was attached and air laden with the ethylene vapor driven into the lungs the heart would still continue to pulsate for some minutes. After the blood-pressure had fallen almost to zero and the heart-beats could no longer be traced on the drum, yet when the thorax was opened the organ was still feebly pulsating, and continued so for several minutes. This fact is certainly an interesting one to remember, for in case of accident during its use the absence of pulsations at the wrist would not be so serious as it otherwise would, and by reference to the text immediately following Exp. IV. the invaluable services to be expected from the amyl nitrite cannot be overestimated. And in those cases where a sudden arrest of the respiratory movements occurs, the same good services can be expected, for it is evident, from the results of some of the preceding experiments, that the ethylene acts primarily as an excitant and secondarily as a depressant to the respiratory centres. That the respiratory movements must be arrested by centric paralysis is evident from the results of the experiment just quoted, for if it were due to a paralysis of the respiratory muscles, or of the nervous communication failing to convey the impulses from the centres, scarcely such a rapid recovery of full, regular, almost normal respirations could occur, since the nitrite acts as a depressant to both the motor portions of the cord and nerves and voluntary muscles. Yet the recovered respirations could be attributed to some extent, probably, to a greater supply of blood to the anæmic respiratory centres, for the reason that the increased force and frequency of the heart must have been the cause of driving considerably more blood through the centres, even if the blood-pressure was not increased and the respiratory centres were thus also indirectly stimulated by the nitrite. It is very evident that in the nitrites we have both respiratory and cardiac stimulants, and therefore a double physiological antidote, by acting similarly upon the depressed heart and respiratory centres; and the importance of this knowledge cannot be too deeply impressed on the minds of those who will hereafter make use of this preparation.

As an anæsthetic for general surgical use it is undoubtedly superior to any yet introduced, with the exception of its isomeric compound ethylidene chloride and ether, and is inferior to the latter in but the single point regarding the relative degree of safety; and, while it in all probability is equal to chloroform in strength, promptness, and permanency of effects, it is fully as much superior to it in the point of safety as it is inferior to ether. This last is very evident by referring to the records of the experiments made on the arterial pressure, where it will be seen that the diminution of the arterial tension is that of a gradual decline, decidedly unlike that caused by the slow administration of chloroform, because of the absence of those wide and remarkable variations which occur, especially before complete anæsthetization. Also, when the vapor is given in a state of concentration by saturating a muslin cone with the liquid and placing it directly over the tracheal tube, as in Exp. X., although we have a decided fall of pressure, yet it does not immediately decline to zero, but consumes twenty-seven minutes in reaching within as many millimetres of it. Now let us turn to a similar experiment made with chloroform, and the difference in the results is strikingly great:

Exp. XVI.—Rabbit.

Time. M. Sec.	Pressure. Mm.	Remarks.
1.	59	
		Gave thirty minims of chloroform by inhalation from a muslin cone held over the tracheal tube.
.10	58	
.20	57	
.30	52	
.45	48	
.50	34	
2.00	18	
.10	12	No pulse.

The diverse and interesting results of these parallel experiments are so valuable as scarcely to be overestimated in a comparison of the relative safety of the two compounds, as the pulse in the ethylene experiment could be detected on the tracing for over twenty-five minutes, notwithstanding that the animal was continuously inhaling the vapor during the whole of this time, while in the chloroform experiment but a single dose was placed on the inhaler, the pulse-curves rapidly diminished in size, and the pressure fell to twelve millimetres in a little over two minutes, and the pulse was extinct.

It needs no further argument to prove that this article (or, probably, ethydene chloride) should replace chloroform in such cases where ether cannot be used; but, as it is inflammable, care must be exercised in its use at night, and, as it is a cardiac and respiratory depressant (in toxic amounts), the same cautions should be observed in its use, and never should it be employed, if possible, without amyl nitrite at hand.

Before concluding, I take pleasure in expressing my indebtedness to Mr. Edward Hance (of the firm of Hance Brothers & White, manufacturing chemists, Philadelphia) for the presentation of this valuable ether for the purpose to which it was devoted. It is almost unnecessary to state that particular care was exercised in the manufacture of this specimen to have it pure.

Ethylene Ethylate and *Ethylene Methylethylate* were experimented with, and, although each of them possessed some slight anæsthetic powers, they were so feeble in this respect and caused such distress in breathing that they were abandoned as useless.

Ethyl Nitrate was used by Simpson,* who found it easy and pleasant to inhale, and to possess very rapid and powerful anæsthetic properties, and that small quantities, such as fifty or sixty drops, sprinkled on a handkerchief produced insensibility after a few inspirations. Shortly after, Nunnelly† stated that it possessed not much, if any, anæsthetic power; and my own experiments confirm this, as the following result will show:

"*Rabbit.*—Time, 12.32. Added one drachm to inhaler; .32½, struggles; .33, breathing deeper and slightly faster; .34, no change; .35, added a second drachm to inhaler; .35½, respirations again temporarily increased; .37½, orbital reflexes slightly diminished (?); .39, added a third drachm to inhaler; .40, respirations increased; .43, animal not anæsthetized, but somewhat drowsy, and, although the inhalation was continued for several minutes, no anæsthesia was produced."

Ethidene Dichloride, Ethylidene Dichloride, or *Ethylidene Bichloride* ($C_2H_4Cl_2$),

* Edinburgh Medical Journal, 1848, p. 741.
† Proceedings of the Provincial Medical and Surgical Association, 1849.

which is isomeric with the ethylene bichloride, has of late attracted attention through the researches of the British Anæsthetic Committee,* who found that the exposed heart of the frog, in a glass jar containing an atmosphere impregnated with this vapor, continued beating slowly and regularly throughout the experiment, which lasted, in several cases, for twenty and twenty-six minutes respectively, although the animals were anæsthetized in from four to five minutes. In rabbits in which the thorax was opened and artificial respiration maintained, the cardiac contractions continued vigorous throughout the observations, which continued, in one instance, for forty minutes. Dogs were anæsthetized in from two to three minutes, and were kept fully anæsthetized for half an hour without the slightest failure of the respiration or heart. In experiments with the thorax opened and heart exposed (artificial respiration being kept up) no failure of the heart's action was observed, although the air passing into the lungs was saturated with the vapor. They further state that, practically, the animal can live for a prolonged period in a state of complete anæsthesia under the influence of the ethidene dichloride, while it dies in a short time under chloroform. And in six cases in which it was used† they concluded that no injurious effects on the respiratory mechanism occur; that the pulse is lowered in frequency, but increased in volume, and in the deepest anæsthesia it was steady, regular, full, and compressible; that no failure of cardiac action was present, as they were led to anticipate in their experiments on animals; that there was never blueness of the lips or pallor of the countenance; and, lastly, that the anæsthetic "*presents all the advantages of ether without any of its disadvantages.*" In a more recent contribution‡ it is asserted that the *arterial pressure gradually but slowly fell*, and under repeated doses reached a minimum of twenty millimetres, and after prolonged and constant use was gradually brought down to seven millimetres.

Binz§ used it in six experiments on man, and to his satisfaction, and found that when the patients were fully anæsthetized the breathing became spasmodic and shallow, the pulse lowered, but fuller and more compressible, and all of them presented the appearance of a strong cardiac stimulant. In two cases there was a rise in the pulse-rate, followed by a fall, and in a third case the pulse fell from ninety to eighty. The doses used varied from a drachm to a drachm and a half. More recently Reeve‖ has experimented with it, and his results "show a diminution of arterial pressure, not as occurs when chloroform is used, but, unlike it, it does not advance to complete extinction, nor are there such wide variations in effects at different times in the same animal as in the case of chloroform. . . . Snow believes that it will not be liable to cause sudden death, as chloroform sometimes does. In sixteen cases it did not cause nausea or vomiting, although food had recently been taken in several of them." Steffen¶ reiterates Snow's belief.

In making the above quotations the writer's object is threefold: first, to give sufficient detail, so that a just comparison can be made with the action of its sister compound, the ethylene bichloride, which the British committee stated to cause severe convulsions and no anæsthesia up to that time, while the ethidene dichloride promised to be "an excellent anæsthetic;" second, to call attention to the fact that it does cause a decided lowering of the arterial pressure, and, therefore, cannot "possess all the advantages of ether;" third, that a death has already resulted from its use.** It is probable that, while this anæsthetic is undoubtedly safer than chloroform and certainly more dangerous than ether, it bears a position of relative safety and power similar to that of its sister compound, the ethylene bichloride.

SPINA BIFIDA CURED BY INJECTION OF IODO-GLYCERIN SOLUTION.—Mr. Berry (*Brit. Med. Jour.*, vol. i., 1881, p. 468) reports one success, one partial success, and one failure. His failure was due to allowing the partial escape of the spinal fluid. He advises sealing up the wound made by the trocar at once with collodion.

---

* British Medical Journal, 1879, vol. i. p. 1.
† Loc. cit., p. 109.
‡ Loc. cit., p. 921.
§ London Medical Times and Gazette, 1879, vol. i. p. 62.
‖ Chicago Medical and Surgical Examiner, June, 1880; quoted in New Remedies, 1880, p. 334.
¶ Binz's Evidences of Therapeutics, p. 39.
** Kappeler, Part XX., German Surgery, by Billroth and Luecke; quoted by Reeve, American Journal of the Medical Sciences, July, 1880, p. 216.

NOTES OF HOSPITAL PRACTICE.

PENNSYLVANIA HOSPITAL.

OUT-PATIENT DEPARTMENT.

SERVICE OF DR. CHARLES T. HUNTER.

Reported by JOHN GILLESPIE, JR., M.D.

WOUNDS OF THE HAND.

THERE is no class of injuries and no part of the body which exhibit so promptly the good effects of *rest*, as wounds of the hand. Superficial wounds of the hand, if of slight extent, do not require the application of a splint, but in the treatment of all wounds which extend below the deep palmar fascia the hand should at once be put at *rest*. Very often patients come to this dispensary with hands which are in a shocking condition, as the result of neglect of this procedure. Punctured wounds are especially prompt to respond to this treatment. There have been cases in which an apparently very slight wound has been followed by very diffuse inflammation, even extending along the tendons of the forearm, requiring months of constant attention, while in other cases of exactly similar description, in which the hand has been placed at *rest*, the wounds have healed in less than a week's time. On account of the loose cellular tissue of the hand, neglected injuries of it are apt to be followed by profuse suppuration, while, on the contrary, its vascularity will promote the rapid healing of wounds which are properly managed.

Dr. Hunter, in his address on Surgery,* alluding to the comparative vascularity of the hand and scalp, asserts that the hand is as richly supplied with blood-vessels as the scalp, and claims that the rapid healing of wounds of the head and face is not due to any superiority of vascularity, but to the fact that the arrangement of the muscles of the scalp and face permits absolute rest without any difficulty, while the hand, with its numerous joints and tendons, cannot be so easily controlled; and in the same paper he says that he has never known an instance in which a deep wound, either of the hand or of the foot, has united by first intention, except when the wounded member was put at absolute *rest*.

The closure of wounds of the hand may, in the majority of cases, be secured without the use of sutures, the position of the hand and the use of properly-applied strips of adhesive plaster being fully sufficient to accomplish the purpose, avoiding, at the same time, the irritation caused by the sutures. It may safely be said that where there is the least possible degree of laceration or contusion of the sides of the wound, sutures should not be used.

The position of the hand which is best adapted to secure the rapid union of wounds is the semi-flexed, as by this means the contraction of both the flexor and extensor muscles is avoided. To secure this position, the splint, which is to be well padded, should have a wad of oakum or other soft material placed upon it in such a position as to allow the hand to partially grasp the wad. Abscess of the hand when beneath the deep fascia is also favorably influenced by *rest*. The mistake is sometimes made of removing the splint before the divided tissues have formed a sufficiently firm union to enable them to endure the slightest strain. The hand should be retained upon the splint until granulation has well advanced and all local inflammation has disappeared. Care should be taken to avoid anchylosis of the joints by making motion of the fingers at each change of dressing.

The present spring has been an unusually favorable season for demonstrating the value of *rest*, for, although all wounds in which there was the slightest amount of laceration did badly, those wounds which were not treated by absolute rest were remarkable for the extensive suppuration attending them.

There have been a number of very interesting cases of wounds of the hand treated at this dispensary during the past two months, but for illustration of the value of *rest* a few cases will suffice.

Case I. Punctured wound from a pair of scissors being pushed into the palm of the hand.—The woman applied for treatment three days after the infliction of the injury, her hand being at that time much swollen, inflamed, and very painful. The wound was dressed with laudanum and water, and a palmar splint applied. On her return the next day the swelling had almost entirely disappeared, and the hand was free from pain. The improvement steadily continued, and on the fifth day the splint was removed and the woman was discharged, cured, two days afterwards.

Case II. Punctured wound of hand from the handle of a paint-brush.—The patient

* Transactions Medical Society of Pennsylvania, 1879.

applied for treatment the next day after he was hurt. The wound was inflamed, the edges red and pouting, and widely separated.

On account of the protest of the patient, he was allowed to go (after being warned of the consequences) without a splint, a laudanum-and-water dressing only being used. He returned, however, the next day with his hand greatly swollen, the tissues around the wound indurated and exquisitely sensitive. A palmar splint, with the same dressing as before, was applied. The next morning the patient bore voluntary testimony to the almost instant relief of pain he had experienced, and the swelling had so much subsided as to loosen the bandage, and in less than a week the wound had entirely healed.

Case III. Lacerated wound caused by thrusting the hand through a pane of glass.—Two days after receiving the wound, which was about one and one-half inches long, the woman applied for treatment, the hand being in very much the same condition as in the previous cases. The edges of the wound were brought into apposition by means of strips of adhesive plaster, carbolized water dressing applied, and the hand placed upon a splint.

Upon the tenth day after the accident the splint was removed, the wound being very nearly healed.

Case IV. Incised wound.—For two weeks after the accident the woman was treated by a surgeon outside, but the wound continued to grow more painful and the hand more inflamed each day. Upon application at the dispensary her hand was placed upon a splint, and in five days all appearance of inflammatory action had disappeared, and the splint was removed, the wound being entirely healed.

Case V. Compound dislocation of index finger, with contused wounds of the hand, by being caught between the buffers of railroad-cars.—For five days the wounds were treated at home by the boy's friends, and when he came for treatment the inflammation had extended up the forearm, the contused tissues of the hand were sloughing out, and the entire hand was infiltrated with pus, requiring repeated lancing to accomplish its evacuation.

The dislocation was reduced, poultices applied, and the hand placed upon a splint.

After the formation of several abscesses, in seven weeks the wounds had almost healed, requiring nothing but a simple unguent dressing.

Case VI. Incised wounds of back of hand, just below the wrist.—Sutures and straps were used to close the wounds, and laudanum-and-water dressing used, and the hand placed upon a splint. In three weeks the wounds had apparently healed and the splint was removed. The next day the hand and forearm were red, swollen, and painful, in consequence of which the splint was reapplied, and in twenty-four hours the swelling had greatly diminished. Two weeks after this the splint was again left off, and the same sequelæ ensued, necessitating recourse to the splint again. Finally, six weeks after the injuries were received, the splint was omitted, without ill effects following.

This patient was old, and addicted to the use of alcohol, which circumstances account for the slow healing of the wounds.

Case VII. Incised wound of back of hand, the extensor tendon of the index finger being severed.—The ends of the tendon were brought together with a silk thread, laudanum-and-water dressing applied, and the hand placed upon a splint. On the seventeenth day the silk suture came away, and after this the wound rapidly healed, the motion of the finger being perfect. There is no doubt that if the soluble catgut thread had been used, the same result would have been obtained much more quickly, as the irritation caused by the silk suture prevented the wound from closing.

This is the second case of tendon suturing of which I have known; both were successful; and the success could not have been obtained except by strict observance of *absolute rest.* No matter what dressing may be used, in deep wounds of the hand, union will not take place so readily without immobilization of the wounded part as it will without any dressing, if rest is enforced by means of a splint.

INOCULATION WITH HYDROPHOBIC AND OTHER SALIVA.—Pasteur seems to be getting into the bad habit of hasty generalization. A little while ago he announced that he had found a new *microbe* in the blood of some rabbits killed by inoculation with the blood of a hydrophobic child. He then thought he had laid his finger on the specific virus of hydrophobia; but he now announces that in some experiments performed with the saliva of children dying of broncho-pneumonia he had produced precisely the same results.

TRANSLATIONS.

DIFFERENTIAL DIAGNOSIS BETWEEN SCARLATINA- AND OPIUM-ERUPTION.—Bernouilli (*Correspondenzblatt für Schweizer Aerzte; Deutsch. Med. Wochens.*, 1881, p. 161) gives the following:

Scarlatina.	*Medicinal Eruption.*
History of contagion.	No history of contagion; occasionally history of previous attacks of the same kind.
The eruption finely punctate; only later is it confluent. Beginning on the neck, reaches its maximum in one to two days. Occasionally severe burning and itching; often chills. It may be accompanied by urticaria and pustular lesions. Duration one-half to one week. Desquamation occurs after a longer or shorter period, the scales branny or lamellar.	The eruption is diffuse, not punctate, or, if punctate, the punctæ are not divided by healthy skin, but are situated on an erythematous surface. The eruption begins on the neck, and reaches its maximum in one to two days. The lower half of the extremities often remains free. There is always itching and burning. Frequently chills. Urticaria and erythema papulatum are often associated with it. Duration four to eight days. Desquamation after some five days, branny or lamellar.
The tongue at first thickly coated, later smooth and red. Angina, with or without diphtheritis. Gums inflamed. Blood or albumen in the urine.	Tongue and gums normal. The medicine generally to be found in the urine.
Temperature continuously high.	Temperature (often with chills) very high, course normal, or sub-febrile.
Pulse usually frequent.	Pulse moderately increased or normal.
Localizations in the organs of hearing, joints, and kidneys.	Slight eczema often occurs as a sequel.
Relapses are rare; pseudo-relapses are mostly like measles. Rarely complicated by other diseases as sequelæ.	Relapses under the same circumstances almost invariable, the course of symptoms being about the same each time.

NEW METHOD OF TREATMENT IN VAGINITIS. — Dr. Terrillon (*Bull. Gén. de Thérap.*, 1881, p. 193), dissatisfied with the usual remedies employed in contagious vaginitis, has devised a sort of ointment to be injected by means of an instrument which appears, from the description given of it, to be a combination of a speculum and a syringe. It consists of a reservoir terminating in a tube four or five inches long, with a bevelled opening. The reservoir is covered by a hinged cap, through the top of which runs a rod attached to a piston fitted to and intended to play in the reservoir. The latter being charged with the ointment, and the terminal tube being introduced into the vagina, the piston is pressed down upon the ointment contained in the reservoir, forcing it along the tube and discharging it in the form of a plug about one-third of an inch in diameter at the opening, which may be placed at any point in the vagina up to the os uteri. A small portion of ointment being deposited at the desired point, the tube is withdrawn, and the ointment slowly melts in the upper part of the vagina and finds its way down, enduing every part of its surface with the contained medicinal agent. The advantages of this form of medication are that it can conveniently and almost painlessly be applied in small vaginas, such as those of recently-deflowered girls, who are most frequently the subjects of acute vaginitis, and that its action is slow and constant. Except in very roomy vaginas, the ointment is retained without a tampon; and experiment has shown that a certain quantity of it can be found in the vagina so long as eight to ten days after its introduction. In spite of this persistence, the ointment does not form an irritating body and does not become tough and hard to remove, as do occasionally the powders sometimes employed, as that of subnitrate of bismuth. The composition of the ointment used by Dr. Terrillon is as follows:

℞ Vaselini, ℥iv;
Amyli, ℥iv;
Acid. tannic., ℈iv.—M.

This ointment has a peculiar pasty consistency, which permits of its introduction by means of the tube above described. The quantity introduced should be from a drachm to a drachm and a half. The possibility of employing this method of treatment from the beginning, the relief gained by the rare introduction of an instrument, and the fact that the patient declares that no pain or inconvenience is felt, give it the advantage over other methods hitherto

employed. Dr. Terrillon gives brief notes of some twenty cases coming under his notice in which this plan of treatment has been applied with success.

INTUSSUSCEPTION OF THE INTESTINES, WITH EXPULSION OF FORTY CENTIMETRES OF INTESTINE—RECOVERY (Dr. Grosoli, *Giornale di Medicina Militare*, November, 1880, p. 1190; from *L'Indipendente*, No. 32, 1880).—Boy 10 years old, after having eaten some limes and oranges (seeds, skin, and all), was seized with violent pains in abdomen. Castor oil administered by his mother without causing any passage. Pains continued, and soon associated with vomiting. Dr. Grosoli called in. He prescribed an oleaginous purgative and a clyster of senna and common salt, but without success. Symptoms increased in violence, and vomiting of fetid, sedimentary matter set in. Belly extremely tender to touch. Leeches, clysters, hypodermic injections of morphia and atropin, warm cataplasms, cold applications, warm baths of the whole body, and electrical currents had no effect. For twelve days the patient suffered agony, being sustained in the mean time by nutritive enema. Finally, the doctor administered to him thirty grammes of mercury. Two hours after, bowels moved for the first time. Expulsion of much flatus and fecal matter mixed with blood and mercury. He then commenced to improve, but the pains ceased only with the expulsion of a membranous substance having a gangrenous odor. Next day, expulsion of forty centimetres of small intestine. For fourteen days following, slight pains in abdomen were present, with occasional ejection of pieces of intestines. In a month after, he was able to leave his bed. W.

TRANSFUSION OF BLOOD BY THE PERITONEAL CAVITY.—Dr. Lava (*Cbl. f. Chir.*, 1881, p. 176; from *Osservatore, Gaz. delle Cliniche*) gives an unusual case of blood-transfusion into the peritoneal cavity in the case of a patient suffering with progressive pernicious anæmia with hyperleucytosis. Two hundred and ten grammes of defibrinated blood were injected by means of Castieau's apparatus. Death supervened forty-one hours after the operation, and at the post-mortem examination diffuse sero-fibrinous peritonitis was found, together with anæmia. In the intestine were found a large number of anchylostomata.

APOMORPHIN AS AN EXPECTORANT.—Muriate of apomorphin has been employed by Dr. Carl Beck (*Deutsch. Med. Wochens.*, March 19, 1881) in sixty cases of bronchial catarrh and thirty-one cases of broncho-pneumonia. He finds that under its use the secretion becomes rapidly thinner and more fluid, and in broncho-pneumonia particularly the thick, tough plugs which close the air-tubes and slowly suffocate the patient by carbonic-acid poisoning are loosened and discharged. The dose of apomorphin is $\frac{1}{64}$ grain for young infants, increasing the amount by $\frac{1}{120}$ grain for every year. For adults the following formula is recommended by Beck:

℞ Apomorphii muriat., gr. $\frac{9}{10}$–j$\frac{1}{4}$;
Acidi muriatici diluti, ♏xv;
Aquæ destillatæ, f℥xxx;
Syrupi simplicis ad f℥iv.—M.

Sig.—Tablespoonful every second, third, or fourth hour. Half this dose is the average for children of three to ten years, every hour.

DRAINAGE FROM THE BLADDER IN THE OPERATION FOR STONE, ESPECIALLY THE HIGH OPERATION.—Trendelenburg (*Cbl. f. Chir.*, 1881, p. 172; from *Berlin. Klin. Wochens.*) alludes to the fact that in many cases of large and old calculi the ureters themselves are dilated, so that the valve to the bladder is opened and cystic inflammation can very easily extend towards the kidneys. The urine, mixed with débris, blood, etc., may also penetrate to the kidney and arouse pyelonephritis. For this reason Trendelenburg urges the employment of drainage-tubes for eight to twelve days after the operation, washing out the bladder once with disinfecting fluids, but not again. This procedure should be followed in all cases, but especially after the high operation.

A NEW INSTRUMENT—THE VEIN-BROOCH IN VARIX.—At a recent meeting of the Clinical Society (*Lancet*, vol. i., 1881, p. 561) Mr. Douglas showed an instrument of his devising, and which produced flat pressure on varicose veins and varicocele by means of a horn spatula, or one made of horn and steel, with a grooved needle riveted to the eye-end and fastening at the point, after passing under the vein, by a catch like a brooch or safety-pin, giving very little pain, and (unlike the old torsion of wire or silk ligature) producing no constitutional disturbance, but obliterating the vein with certainty, and without subcutaneous division.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, JUNE 4, 1881.

EDITORIAL.

ANÆSTHESIA.

WE desire to call especial attention to the article which appears in our present issue from the pen of that clear-headed young surgeon, Dr. Roberts, and to the discussion thereon, whilst making editorial remarks upon the subject. At the meeting of the County Medical Society various speakers agreed with Dr. Roberts in magnifying the dangers attending the administration of anæsthetics; but we are impressed with the marvellous safety that attends even their careless use, provided only that the most innocuous among them are selected. The dangers which surround chloroform have been too frequently written about and have been too often and too tragically exemplified to need further comment. He who still persists in the habitual employment of chloroform seems to us beyond the reach of argument or human speech. We let him alone. With nitrous oxide gas and with ether, how few are the deaths in proportion to the administrations! In the city of Philadelphia chloroform has produced death, to our personal knowledge, several times; ether has certainly been used more frequently than the other agent, but we have never known of a case in which death was certainly or even fairly attributable to this anæsthetic. Fifty inhalations of ether a day is hardly an over-estimate, which would give, in the last thirty years, five hundred and fifty thousand administrations for this city, and not one death unimpeachably produced by this oxide of ethyl. Possibly this estimate of the number of administrations may seem exaggerated; but cut it down beyond all reason, and remember the heart- and lung- and kidney-affections which so often exist uncared for, the towel sopped with ether, the utter carelessness so frequently seen in the operating- or sick-room, and it is marvellous not that there have been one or two deaths very doubtfully attributed to the agent, but that there has been so clean a record. Is it too much to claim that drunkenness from ether is much safer than a drunkenness of equal degree from alcohol?

It cannot be admitted that in either of the cases reported by Dr. Roberts the death was positively attributable to the ether. In one case a large dose of chloral was given,—an amount, indeed, which has produced death very much as was caused in the case here reported without ether having been given at all. In another case the man died, after recovery of consciousness (*i.e.*, after the symptoms of anæsthesia had passed off), from sudden pulmonary œdema. The kidneys were not examined after death; there was at least enough during life to suggest the possibility of their having been diseased; sudden pulmonary œdema is common enough in contracted kidney, not one of the dangers usually attributed to anæsthetics: surely, without further discussion, this case may be ignored.

The first case reported by Dr. Roberts is more pertinent; and yet it does not bear examination without flinching. Every man who dies during anæsthesia does not necessarily die from the anæsthetic. It is certainly possible for an anæsthetized patient to die from hemorrhage; it is equally certain that patients not anæsthetized have died under the knife from shock, and there is no proof that anæsthesia abolishes shock.

The case narrated by Professor Smith in the discussion was very pertinent. The operation was similar to that performed by Dr. Levis; result fatal in each instance. No anæsthetic having been given in one case, death is registered from shock; ether

having been given in the other, death is attributed to it. If only Professor Smith's case had happened a little later in time, after instead of before anæsthetics had come into vogue, we should have had two cases of death from anæsthesia.

The symptoms during the last hour of life in Dr. Roberts's case are very interesting and instructive. Contrast them with scenes so often witnessed in the practice of chloroform anæsthesia. A cry from the surgeon giving the agent, or from a by-stander, announces that the pulse has suddenly failed, or the well-known, peculiar pallor has in an instant spread like a death-cloud over the face of the victim; the rush, the struggle, the quick return to life, or the plunge into death. In Dr. Roberts's case, a slow failure of the pulse, a gradual sinking into the grave, a whole hour of doubt. Years ago, when resident in Pennsylvania Hospital, we saw two men who had been badly burnt some miles away, had run of their own accord straight to the hospital, and got into bed clear in intellect, but with failing pulse, to become in a few moments unconscious, with pulse growing weaker, and to die in an hour or two: not death from ether, but from shock.

The lesson we would draw from the facts brought forward by Dr. Roberts is not to be afraid of ether and to allow pain to reduce vital power, but to remember that at least as much care is necessary in using ether as would be given to making a man drunk.

LEADING ARTICLES.

PARASITIC ANÆMIA.

THE occurrence of a mysterious and fatal form of anæmia among the laborers in the St. Gothard tunnel a year or so ago, and the subsequent discovery of intestinal parasites as the cause of disease in these cases, have lent renewed interest to the investigations made by a few well-known observers which had previously failed to gain that amount of general attention which their importance deserved. Of late, interest in this subject has revived, and we find in a recent number of *Schmidt's Medicinische Jahrbücher* a general résumé of our knowledge, by Dr. Meissner, of Leipsic.

Although anæmic symptoms are those most prominent and to which most attention has recently been drawn, yet there are other forms of disease so closely connected with parasitic infection that it seems proper to consider them together.

Among the parasites involved are hæmatozoa and intestinal parasites. Of the hæmatozoa those of most importance are the *filiaria sanguinis hominis*, and the *bilharzia hæmatobia*. The first of these has been very thoroughly studied by Manson, of Amoy, China, and Bancroft, of Brisbane, Australia. The filiaria, while it may at times be present in the blood without giving rise to any symptoms, at other times appears beyond question to be the cause of chyluria, elephantiasis, etc. The mode of its action would seem purely mechanical. The parasite lives in the blood- or lymph-channels, and its accumulation at a given point gives rise to lymphorrhagia or inflammation. Two curious facts have recently come to light regarding this parasite. One is that the mosquito acts as a carrier: sucking the filiaria with the blood of an affected person, it afterwards deposits the ova or embryos, which have meantime hatched, in the water when it lays its own eggs. These embryos are then swallowed in the drinking-water by another victim; and so the circle of disease is completed. Another and a very curious fact regarding the habits of the filiaria was lately discovered; this is, that it is a nocturnal parasite. During the day the filiariæ lie dormant at some point in the victim's circulation, but at night they sally forth and rove the currents of the blood the night long.

Bilharzia hæmatobia were found by Dr. John Wortabet, of Beirût, in patients who had been using bad drinking-water. Strangury and hæmaturia were among the earlier symptoms, followed by an eruption of blebs (?) resembling "Delhi boils," which only healed after six months. The patients enjoyed apparently good general health, but were weak and nervous. Ova and a few fully-developed parasites were found in the urine. Bad drinking-

water, especially that of Syria and Egypt, appears responsible for the occurrence of this parasite, which produces its evil effects by collecting in the vessels and parietes of the hepatic and renal system and giving rise to hemorrhages and abscesses. In several cases a prolonged stay in London cured patients who were again attacked on returning to Egypt.

Among the intestinal parasites which give rise to general symptoms, the *Anchylostoma duodenale* is best known, although it has been only recently the subject of careful investigation. Allusion has been made to its occurrence among the workmen of the St. Gothard tunnel. A recent communication from Dr. Bugnion, of Geneva, in the *British Medical Journal*, throws more light on the subject. The anchylostoma belongs to the same order as the trichina, the oxyuris, and the ascaris lumbricoides, but instead of feeding on the contents of the bowels it attaches itself to the mucous membrane of the duodenum and sucks blood like a leech. The repeated intestinal hemorrhages produced by its attacks may be considered as the principal cause of the aggravated anæmia and increasing weakness which are generally observed in the victims of this parasite. In the case of the workmen in the St. Gothard tunnel, no fewer than 117 deaths had taken place up to June, 1880. The difficulty of diagnosis was enhanced by the refusal of the authorities to permit post-mortem examination of the patients. The diagnosis once made, treatment of the usual parasiticidal character becomes available, and is followed, if timely, by good results. The symptoms of this peculiar form of anæmia are at first those of a chronic gastro-intestinal catarrh. The affection begins gradually, with loss of appetite, constipation, pain and weight in the stomach. Then follows loss of energy and spirits, with suicidal inclination. The color of the skin becomes changed to a peculiar waxy yellow, and loss of pigment (peculiarly noticeable in the negro) is marked. The special senses are dulled, cardialgia, cramps, headache, sleeplessness, tinnitus aurium, dyspnœa, palpitation and dizziness occur on exertion. There is a blowing sound in the arteries and sometimes in the veins of the neck. Later still the lack of appetite changes to a craving for food, often of a loathsome sort. Bloody and excessive stools supervene; anasarca, œdema of the lungs, cramps, and cardialgia close the scene. Post-mortem examination shows, in addition to the appearances commonly presented,—extreme anæmia and bloodlessness,—foreign bodies, coal, balls of earth, etc., in the stomach. The intestinal mucous membrane is swollen, and shows numerous extravasations, with occasional ulcers. Under a lens the marks of the teeth of the anchylostoma can be perceived, and, if the examination has been made within a short time after death, the living worms, to the number of eighteen to twenty-four over the space of about two-thirds of a square inch. The parasites themselves are about one-quarter to one-half inch in length. The prognosis of the affection is favorable in its earlier stages, provided appropriate remedies be employed. These should be both of a hygienic and a medicinal nature. Anthelmintics, santonin, camphor, assafœtida, turpentine, kousso, pomegranate, etc., are first to be employed; then iron, bitter tonics, astringents, and sometimes diuretics. Above all, however, change of air and water (the latter should always be filtered), and the use of strengthening diet, with alcoholic stimulants, are of use.

The occurrence of *Anguillula intestinalis* and *A. stercoralis* in the dyspeptic or endemic diarrhœa of Cochin China has been shown by several observers, and there is strong reason to believe this parasite to be the cause of the affection.

This whole subject of parasites of the blood and intestine, although very little examined into as yet, promises much information, particularly as to the causes of obscure tropical diseases; and the fact that parasitic anæmia has been found so far north as the St. Gothard indicates that these affections may not be confined to tropical and sub-tropical countries alone.

CORRESPONDENCE.

LONDON LETTER.

IN my last letter the question of meeting homœopaths in consultation was discussed in reference to the late Lord Beaconsfield. My opinion that such consultations are not desirable was then expressed with my usual outspokenness. The matter has occasioned an explosion of opinion, both among the laity generally and the profession. The most an-

tagonistic position was taken up. The laity approved highly of Dr. Quain's action; the profession has as strongly disapproved of it. The laity evidently wish to be allowed unlimited freedom to flirt with homœopathy when they list, to be serious with regular scientific medicine when the danger of death looms up. They are very indignant, indeed, at the medical profession daring to assert any opinion of its own instead of humbly bowing the knee and feeling rebuked for having ventured to think for itself. On the other hand, the profession has its opinion on the matter, and a discussion has gone on about the subject both in the *Lancet* and the *British Medical Journal*. The voice of the profession is distinct and articulate; it will have none of these compromises, none of these left-handed alliances with an immoral section of the medical world,—no concubinage with bad characters. Let the laity say what they will, the profession is "solid" on this matter. Of course apologists are found for the eminent personages who are impeached, as might be expected. I took part in the discussion in the *British Medical Journal*, and impugned the conduct of the ex-President for the advice he gave. Every one has agreed, so far, with this view, that "the President was an outsider, and under no pressure," and ought to have remembered the College he represented, and its obligations—and with that his own—to the profession at large. Of course it is to be deeply deplored that at this time, when the evidences of the profession being of slight social account have been unpleasantly frequent, so abject a position was assumed by prominent members of it. But some of the individuals who have hitherto had more of their own way than was either good for themselves or for the profession to which they belong in the councils of the College will now have to abdicate, having been detected, or found out, preaching one doctrine and practising another. Of all kinds of imposture the most detestable is that of the Pharisee, who judges others severely yet omits to live up to his standard and professions himself. There has been sufficient of the cleansing of the outside of the platter; it is polished enough to reflect some goodly pictures of sundry individuals posing before it. What is now wanted is some sanitary cleansing and disinfection of the contents thereof. This must soon be done, as the profession is awakening to the conviction that it has been blinded and played fast-and-loose with in its complete confidence.

But this is not the only matter of interest to the profession brought out by the late ex-premier's illness. It was curious how his condition varied and oscillated with the weather-cock. When the wind veered from the east and northeast into the west, the aged senator picked up; when the wind went round to the east again, he drooped. The temperature of the room might be maintained artificially, the air might be kept moist by bronchitis-kettles, but nevertheless the nor'-easter made itself felt. The keen nipping wind found an entrance in spite of everything that acute human intellects could devise, and the venerable Oriental sank under the east wind at last.

The most useful agent, it appears from the daily press, for giving him relief from his asthmatic paroxysms was "Himroth's powder,"—not a remedy in the English Pharmacopœia, but an American quack or secret preparation. Anyhow, it appears, it did good; and there was a sense of fitness in a long belief in homœopathy terminating and culminating in a quack preparation. But to revert to the east wind. It certainly exercised a most potent influence upon his lordship; it certainly does exercise a curious malign influence upon the inward processes of nutrition and the metabolism or transformation of albuminoids within the body. Many years ago a patient with acute nephritis was recovering very satisfactorily, the appetite was returning and the strength coming back, when the wind veered to the east, and with it the prospect clouded. Uræmic poisoning set in; the patient was purged, sweated, and even bled, with temporary relief, but all in vain; she sank. Since then an east wind has been regarded as distinctly dangerous in many cases. Nor has an increasing experience modified the suspicion with which the veering of the wind-vane to the east has been watched and noted.

It seems in some way to pervert or interfere with the transformations going on in the liver, and to modify them so as to charge the blood with waste. The expression a "bilious chill" has long been adopted here to signify a condition where a chill has operated malignly upon the liver and its processes, perverting them and disturbing the economy. The effect of the east wind and its variations upon a patient of my own was very instructive. In September last he presented himself with dropsy in the legs, not extending above the knees. The liver was distinctly enlarged, and there was a history only too clear of considerable alcoholic indulgence. The heart was dilated, and its action irregular. On digitalis and strychnine he improved splendidly, a mercurial pill twice a week, with a purgative of sulphate of soda and Rochelle salt next morning, being taken to sweep away the waste out of the blood, and so to lessen the arterial tension. The diet was strictly regulated, and albuminoid matters given but sparingly. The progress was instructive. Hand in hand with the general improvement a reduction in the bulk of the liver could be observed, until it was reduced a long way towards its normal size, while it seemed to possess almost unimpaired functional activity once more. Such was the improvement that the patient was lost sight

of till March 29, when the east wind had been blowing some time. When seen at that date, there was consolidation of the lower lobe of the right lung, without, however, any general disturbance of the health. The consequence of this was increased fulness of the liver, and that again was followed by œdema of the legs. The bulk of urine fell remarkably. For ten days I did not see him, being away in the country. On my return, I found the dropsy had mounted above the knees; the liver was as large as when first seen; but the consolidation of the lung had scarcely progressed at all. During this time the east wind which finished Lord Beaconsfield blew keenly. The patient was purged with elaterium and compound scammony powder, and well sweated in Sir James Simpson's bath of lemonade-bottles full of hot water with damp stockings over them. Just at this time the wind veered, and all went well. The free watery motions, the profuse sweatings produced by the bath, arrested the progress of the advancing dropsy. At the same time, carbonate of ammonia, with full doses of tincture of nux vomica and small quantities of digitalis, was given every six hours. The dose of digitalis would also have been full, but he was one of the rare (in my personal experience very rare) cases where digitalis in full doses has not been tolerated, and the tincture was given in eight-drop doses only, this being compensated, as far as possible, by twenty-drop doses of nux vomica. Under this treatment the bulk of urine rose, but not to the normal amount. The case remained stationary for a few days, except that the lung kept clearing up very satisfactorily, considering all the circumstances of the case. Then the wind veered again. The first effect was some vomiting of bile, with anorexia. Hitherto the appetite had remained good, and the digestion effective. On the whole, though gravely and seriously ill, the case was not without hope. But the wind kept steady. The urine first ceased to increase, then it fell. The patient felt unequal to the bath, but continued the purgative. As the urine fell, the dropsy mounted, climbing into the prepuce. This change for the worse under the active treatment adopted was ominously suggestive of some new departure. The question of making punctures in the legs had been kept in view, but my experience of it had scarcely been encouraging. To do so would be to lessen the dropsy, but it did not necessarily follow that this would increase the renal secretion. For it was obvious that the fall in the bulk of urine, and the increase of the dropsy, were consequential to a something which stood in a causal relationship to both. It was but too evident that this must be in the veins; some block there was obstructing the renal flow as well as increasing the fluid in the lower extremities. Besides, too, the urine became densely albuminous at this time.

This view was in accordance with Sir James Paget's observation that phlebitis is common in the subjects of perversion of the function of the liver. The indications were not those of pure dropsy: the skin was dusky and brawny, and not intensely white as it is usually, nor did the surface "pit" as it ordinarily does. "The limb thus enlarged feels œdematous all through, but firm and tight-skinned, not yielding easily to pressure, and not pitting very deeply." This was a complication which pretty well blotted out the little prospect of life that remained. I thought of putting in some of Southey's drainage-tubes, as about all that remained to be done, but deemed it well to try the effects of some needle-punctures first. A drop of fluid only followed each puncture, and there was no weeping. The result was then utterly unsatisfactory, and the prognosis became very dark. Yet the general condition was surprisingly good. The appetite was fair, the intellect as unclouded as in the days of perfect health; the patient was sitting up in his chair every day, looking very well. He could walk alone and unassisted. It may be remarked that he inherited as magnificent natural powers and constitution as were ever possessed by a "border-man," usually regarded as a race exceptionally strong. He came of a hardy race; and the prospect, bad as it was, did not even affect his demeanor. He saw some friends in the evening, chatted and talked, had a very good night (comparatively), felt well, and enjoyed his food, and his breathing was somewhat less embarrassed than it had been. He walked from one room to another, sat down quite cheerfully; his wife turned away to arrange something in the room, only for a brief while; when she looked round, he was gasping for breath, and died immediately, with the dark flush of asphyxia on his countenance. It was clear the exertion had dislodged a clot out of the internal veins, which had washed through the right heart and plugged the pulmonary artery.

Now, this case is worthy of consideration as to its phenomena and the result. For, in my experience, such a termination had not previously occurred. The legs looked unusual for cardiac dropsy, not being white and pasty, nor pitting on pressure to any extent, but brawny. The liver was evidently much affected by the change of wind; and the phlebitis was consequent upon further disturbance, as indicated by the vomiting of bile. The urine threw down a dense cloud of lithates after standing some time; but that is common enough in dropsy when the function of the liver is deranged. The evidence was furnished rather by the general disturbance and the subjective sensations of the patient than by any one individual or particular sign. But when the wind went away from the east he made headway; when the wind veered the case backed. This occurred more than once, and the patient was so convinced of the asso-

ciation that he persisted in declaring that if the wind kept in the east it would kill him. Now, the same perturbations were seen in my hospital patients generally during the long-continued east winds of this spring and last year. They found out every one "who had a liver." Patient after patient showed a bile-stained tongue, the hue being noticeable even when there was no fur upon the tongue, if placed in a side-light; there was the concomitant bad taste in the mouth on awaking in the morning. As a rule, too, there was disturbance in the bowels, and a deposit of lithates in the urine. Such are the generally accepted evidences of derangement of the liver. In such persons as were the subjects of grave organic changes in the liver, of course the disturbance was more pronounced than in those comparatively well.

How these disturbances are brought about we cannot yet say; but thus far we may fairly assume,—when the albuminoids of our food are rendered perfectly soluble by the digestive act in the alimentary canal, they pass therefrom into the blood of the portal vein. From thence they pass into the liver and undergo further change, so as to be elaborated and fitted for the nutrition of the tissues in the form of the albumen of the liquor sanguinis. Some are split up apparently right away into urea, instead of undergoing further elaboration; that is, instead of proceeding on the normal further course of the crude product of digestion, they are turned aside to undergo a retrograde metamorphosis. Probably a considerable proportion of the urea we pass has such a genesis. The excess of proteid material is broken up into urea. This production of urea in and by the liver is now generally recognized by physiologists. At the same time, the taurin and glycogen, which unite with the cholic acid in the formation of the bile-acids of man, have a chemical formula bearing a generic resemblance to those of urea and uric acid. Well, when the liver is disturbed, it would seem that instead of the normal transformation of surplus albuminoids into urea the metabolism is in the direction of uric acid and bile-acids. Nor is it difficult to comprehend how this perversion is brought about, when the likeness of the chemical formulæ is borne in mind. The presence of these products in excess in the blood excites various disturbances, and, among the rest, the phlebitis which is so serious. The east wind penetrates into houses, and even into the internal processes of the organism, and disturbs them. The influence upon the liver in this case was unmistakable and, at the same time, most disastrous to the patient's prospects, as the event proved. Of course the case was a very serious one even without the phlebitis; but with it added it was impossible for the organism to carry the burdens imposed upon it. The lesson of the case is one which carries weight with it,—viz., to bear in mind the function of the liver, and with that the derangements commonly met with. When the arrangements for the dehydration of grape-sugar in the portal vein into glycogen, or the hydration of glycogen once more into grape-sugar by the ferment of the liver, are perturbed, then we find the excess of sugar in the arterial blood passing off in the urine, producing glycosuria,—in bad cases the diabetes of our text-books. Far more commonly the disturbance is in that part of the liver-function which is concerned with the metabolism of proteids, by which the crude albumen formed in the alimentary canal is elaborated into the perfected albumen of the liquor sanguinis, or transformed by an oxidizing process into urea or a bile-acid. Consequently, in some cases we find that the transformation is perverted and we get lithic acid produced, while in other cases there is an excess of bile-acids produced. Looked at from this point of view, we can see how lithiasis may be brought about without indulgence in albuminoid food to excess, but by a sort of vice in the liver which is inherited in those cases of hereditary gout where lithic acid is formed on the slightest departure from a strict dietary, the most scrupulous self-denial. When more albuminoids are taken than the liver can deal with satisfactorily, then lithic acid is also formed. In either case the kidneys in time become changed by the lithic acid and lithates in the blood; and so we can see how kidney-disease is the consequence of lithiasis and marks the later stages of the malady. This is the view of gout which must obtain in the future.

J. Milner Fothergill.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

At a conversational meeting held at the hall of the College of Physicians, Philadelphia, February 9, 1881, Dr. Albert H. Smith, President, in the chair, Dr. John B. Roberts read a paper on "Ether Death: A Personal Experience in Four Cases of Death from Anæsthetics." (See page 545.)

DISCUSSION UPON ANÆSTHETICS.

Dr. Henry H. Smith inquired whether the patients had taken food shortly before using the anæsthetic agents.

Dr. R. J. Levis said that in three of the cases no food had been taken for several hours.

Dr. Laurence Turnbull observed with much force that no anæsthetic can be used with absolute safety. Ether produces inebriation like alcohol, and the patient must be kept warm while under its influence, or the temperature will sink below the normal, the skin become

cold and clammy, with symptoms of collapse. The pulse-rate falls, the breathing becomes embarrassed, and an increase of secretion takes place in the lungs, and death occurs from pulmonary œdema and respiratory paralysis, just as in drunkards who are exposed to cold. On account of the similarity of their action, alcoholic stimulants should not be given where a patient appears to be sinking after ether administration. This is the difference between ether and chloroform: under ether the pulse rate is regular and becomes slower, while under chloroform it becomes irregular, as is shown by sphygmographic tracings made by Kappeler. In ether administration the respiration should be watched; in chloroform, the pulse.

Primary deaths from ether are very rare, and that reported by the lecturer was the first one that he had heard of in the city, although another had been lately reported in Cincinnati. In the case referred to this evening, he regretted that the heart had not been carefully examined and the state of the secretions had not been noted. He believed that the state of albuminuria added increased risk to anæsthesia, and he would hesitate to give ether when the amount was large, and would seek to reduce it first by remedies. He criticised the treatment of the patient after the operation, saying that artificial respiration and warmth would have formed a better means of treating ether collapse than alcoholic stimulants. Atropia, also, should not be given in doses larger than one-sixtieth of a grain, nor too frequently repeated.

Dr. Geo. Hamilton said that if albuminuria is a contra-indication to the use of anæsthetics, he wondered that there were not more deaths, since the condition is quite prevalent.

Dr. Levis remarked that the neglect of artificial respiration had been pointed out, but if the members would look at the report they would notice that the breathing never failed until the last, while the pulse was quite weak. After the operation the patient seemed to be in a quiet anæsthetic sleep, but the weak pulse had attracted Dr. Roberts's attention.

Prof. H. C. Wood endorsed Dr. Turnbull's remarks about alcohol and ether, and said that the more closely their effects on the lower animals are studied, the more closely are they seen to correspond. Atropia and digitalis, on the other hand, are of value, but their effects have been greatly magnified; as in single doses they could be given in much larger doses than we are accustomed to, and without any harm.

In considering the causes of death after ether, we must not forget that patients sometimes die of heart-failure, collapse, or shock after operations where no ether has been given. Cases of severe burns, or of surgical operations, frequently rally after the operation, but die afterwards with secondary syncope. The danger of shock is very much reduced where the anæsthetic is used, and in cases of albuminuria the danger from shock without the anæsthetic might be greater than from the ether. Moreover, the amount of albumen in the urine is not an index of the increased risk, for in some cases of contracted kidney the proportion is very small. In the treatment of collapse after ether he recommended the use of ammonia, digitalis, and proper attention to the position and covering of the patient.

Dr. Schapringer had observed that the peculiarity in the case of Dr. Roberts was the heart-failure after ether; but the case was very different from the fatal cases of sudden heart-failure following the administration of chloroform, as it came on gradually and was accompanied by a weak, rapid pulse. He had given chloroform very frequently, and had seen no bad results from it, except in one case, where an assistant had given too much, and some difficulty was experienced in reviving the patient by artificial respiration, slapping his face with a wet towel, which is a good way of supplying the brain with blood and keeping up the circulation.

Dr. W. R. D. Blackwood thought that the danger of anæsthesia is often underrated. Many practitioners give chloroform for the most trifling operations, such as pulling teeth or opening a felon, which is unjustifiable in any case, and criminal in the hands of dentists and other uneducated or semi-medical persons. He could not agree with the lecturer that chloroform should be abolished, as he had used it in many hundreds of cases, while in the army, without any accident. He had seen a man die on the table from fright and shock before anything had been done to him; and here the anæsthetic would have been blamed if administered. He had given chloroform to men apparently dying, in order to perform amputation, and the patients afterwards recovered. Chloroform is the best anæsthetic we have, and is safe, provided that it is given with proper care. In all his field-experience he never saw any difficulty with chloroform; but it was always given in well-ventilated tents or in the open air. The only trouble he had observed with other operators was where mixtures have been used, the rates of evaporation of the ingredients being very different. For the resuscitation of such cases he recommended the introduction of a piece of ice into the rectum. Ether is, however, in ordinary civil practice the preferable agent, and is always safe.

Dr. Levis introduced Dr. West, who was invited to give a further account of the fatal case, which had been under his care previous to the operation.

Dr. West said that the patient had been under his care for about eighteen months previous to her admission into the hospital. After three months' treatment for uterine disease, she had an attack of rheumatism, and

subsequently a relapse; she continued sick for about three months. She also complained from time to time of dysuria, but no albumen or sugar was detected in the urine; but from the pains in the kidneys the speaker inferred that she had chronic nephritis. She also had occasional cardiac palpitation, but had no other evidence of heart-trouble. Twice before admission into the hospital she had taken ether without bad symptoms, although the symptoms of cardiac trouble had previously existed.

Prof. Bartholow said that the prevailing impression of the profession of the comparative safety of ether over chloroform makes a careful investigation into fatal cases necessary, in order to ascertain all the causes contributing to the result, so as to avoid them in the future. He had been struck with the general neglect by the profession of the observations upon anæsthetics made by Bernard some twenty years ago, who found that anæsthesia could be obtained more easily, maintained with less danger, and after-recovery made more sure, by the administration of morphia just before the anæsthetic is given: by this means the stage of excitement and rigidity is avoided which constitutes one source of danger. He also claimed that by this mixed anæsthesia the sensibility of the larynx was obtunded so that the agent could be given with less trouble. He also was satisfied that less of the agent was required, and the stage of anæsthesia was prolonged. Nussbaum adopted the method, but administered the morphia after the patient was under the anæsthetic influence. By the method of mixed anæsthesia the danger is lessened; for nothing could be more certain than that morphia sustains the action of the heart. It is therefore a matter of surprise that the profession at large has taken so little notice of this method of Bernard, especially when endorsed by Nussbaum. It is true it has been advocated by Wm. Warren Green, who claimed it as his own, and it was also taken up by Dr. Reeve, of Dayton, who wrote a paper on mixed anæsthesia. The morphia should first be given by the hypodermic plan, and the anæsthetic subsequently; less of the chloroform will be required, and the danger of heart-failure will be reduced.

He had also been impressed with the statement that the condition of anæsthesia is a condition of danger. All the functions of life are suspended except circulation and respiration, and these are in a more or less damaged condition. Our attention, then, should not be directed to the search after new anæsthetic agents so much as in the direction of making those we have safer. He did not believe that ether is necessarily safer than chloroform. The agent that is used the most frequently would naturally yield a greater number of deaths, and when ether comes into more general use more deaths from it may be anticipated. If anæsthesia is a condition of danger, then the danger is present with ether as well as with chloroform.

In the treatment, he fully agreed with the statement of the inadvisability of giving alcohol in any form, especially hypodermically: as ether is a derivative of alcohol, and has the same effect as a respiratory paralyzer, it would only be adding fuel to the flame. Nor could he agree with the treatment by the injection of ammonia. Where there is danger of death from paralysis of respiration, there are two means of stimulation far superior to medicine: they are artificial respiration and faradism, which are far better in these cases than the so-called cardiac stimulant, atropia. If the cardiac ganglia are beginning to fail from exhaustion, the cardiac stimulant may meet with no response, or may prove injurious, for its first effect is that of stimulation; the second, exhaustion. The heart may be sustained by intravenous injection and artificial heat. He most decidedly protested against the subcutaneous injection of the tincture of digitalis. The action of digitalis is slow, and requires several hours to affect the heart. In a case reported by Boehm, death occurred five days after the administration of a poisonous dose of digitalis, from paralysis of the heart. Digitalis acts by stimulating the inhibitory apparatus, and not by giving increased power to the cardiac ganglia.

Dr. Huidekoper endorsed mixed anæsthesia.

Dr. Toboldt suggested nitrite of amyl in syncope after anæsthetics.

Dr. Henry H. Smith was present at the first administration of ether in this city. In 1846 he administered it for Prof. Horner, in the case of a woman whose breast was to be amputated: the patient was fully anæsthetized, to the great delight of the class. In spite of opposition and warnings of threatened litigation, they continued to use it at the clinic. The surgeons of Pennsylvania Hospital spoke very strongly against it, and one of the more prominent would not consent to be present where it was used. A leading obstetrician warned him that, as it was against the teachings of the Bible, it should not be used.

The first case reported by the lecturer was not a death from ether, but from shock. He recalled a case in which *brisement forcé* had been practised upon an anchylosed knee, without any anæsthetic, and the patient died twelve hours afterwards from shock. The state of anæsthesia is not without danger, but with proper precautions it is perfectly safe. The patient should not be smothered with a towel, but allowed to have fresh air. A bottle of ammonia should always be convenient, so as to allow the patient to inhale it if the breathing is imperfect. He had given ether for the last thirty years to cases in his clinic, and in

private practice, amounting to several thousand, without the slightest cause for anxiety. Even in cases of valvular disease of the heart, and in old age, he had used it without bad results. He insisted upon the importance of not allowing the patient to have any solid food on the day of operation, not since the evening previous.

He believed the danger to be greatly enhanced where mixtures are used. Physicians, moreover, should not be satisfied to use any anæsthetic without ascertaining its purity; the tests being easily applied. As he had no experience in the treatment of dangerous symptoms following anæsthetics, he would not discuss the subject, but said that he questioned the utility of hypodermic injections, and would prefer inversion of the patient, artificial respiration, and frictions of the skin.

Dr. Chas. B. Nancrede observed that in the popular estimation the danger from anæsthetics could not be very great, as they are generally intrusted to the youngest resident physicians in the hospital, and he had seen them thus given in the most reckless manner, so as to nearly strangle the patient. He was surprised that there were so few deaths.

One point not referred to was the effect of the ether upon the broncho-pulmonary mucous membrane. It is well known to act as an irritant, and to cause increased secretion. Under such circumstances, there is increased difficulty in forcing the blood through the capillaries, and the heart's action is reduced; this apparent weakening of the heart is not due to direct depressing action of the ether, but is caused by the difficulty in the capillary circulation. Artificial respiration will relieve this trouble.

As regards shock, he doubted if ether prevented it, as had been asserted. After a major operation he had seen great irregularity of the heart, due to the operation, and not the anæsthetic: if the patient had died, he would not have perished from the ether, but from the operation; he would be more likely to die without the ether.

In conclusion, he condemned the practice of pulling the tongue forward and holding it pulled out of the mouth, as this manœuvre by fixation of the larynx rather interfered with than assisted breathing; the method of pulling the jaw forward by placing the thumbs behind the angle on each side, on the other hand, greatly favors respiration.

Dr. O'Hara did not consider albuminuria as a contra-indication to anæsthesia, especially in cases of convulsions. The greater danger of chloroform over ether may be explained by its different specific gravity. The patient reported by Dr. Roberts may have had simply a weak heart; the absence of murmur is not conclusive evidence that the heart was healthy.

Dr. Albert H. Smith in obstetric practice preferred chloroform to ether, because it acted more promptly in relieving pains, but for prolonged operations he used ether and morphia, as recommended by Bernard.

Dr. John H. Packard referred to the use of nitrous oxide preliminary to the administration of the ether. He had not seen any ether deaths in healthy persons; they were all debilitated or reduced by chronic disease; among the chloroform deaths, however, some were included who appeared to be perfectly sound and healthy. Perhaps when ether has been given in as many cases as chloroform there will be just as great a mortality. In cases of death, the mere phrases "disorder of the heart," "diseases of the lungs," etc., are not sufficiently explicit; the profession wants to know what diseases of the heart, what was the condition of the lungs, as whether emphysema, chronic bronchitis, or the like. He had given ether in old drunkards with good results, and also in cases of albuminuria, which did well.

Secondary shock may follow operations after chloroform as well as after ether, and occurred before the introduction of anæsthetics.

In giving ether, no air should be admitted, but only ether vapor. If epileptiform convulsions occur, dash cold water in the face of the patient, and no bad results will ensue. The ether should be given on a towel folded into a cone, with only a small aperture at the top. In conclusion, he called attention to the similarity of the measures adopted in the treatment of Dr. Roberts's case and that occurring recently in Cincinnati.

Dr. A. G. Read believed that the very large amounts of brandy which had been thrown into the rectum and under the skin in the case just referred to were enough to cause a stoppage of respiration in a healthy person.

Dr. Chas. K. Mills called the attention of the Society to the recently-reported experiments of Brown-Séquard in producing general insensibility by dropping chloroform upon the skin. He thought it possible that in some of the cases of unfavorable effects in man the result might be explained by the local action of the chloroform.

Dr. Jos. Hearn, as anæsthetizer for the Jefferson Medical College, had given chloroform in many thousands of cases in the last eleven years, to young and old, without any bad effect. He advised giving the anæsthetic gradually, so as to accustom the patient to it; it may then be kept up for hours. Where much irritation is caused, it may be due to impure ether; chloroform does not cause such irritation. He always has a wet towel at hand to slap the patient's face as soon as he appears asphyxiated. He watches both the respiration and the circulation. He believed that the danger of chloroform upon the heart had been overrated. The use of morphia prior to operation is generally practised at Prof. Gross's clinic, as it requires less of the anæsthetic. The primary irritant effect of the

ether can be obviated by practising Dr. Bonwill's method of rapid respiration to obtund the sensibility of the mucous membrane.

When the chloroform or ether is carefully given, the danger is comparatively small; the risk is less in the agent than in the mode of administration. He had never seen a death from either chloroform or ether.

Dr. Roberts said that in the case he had reported the question as to whether death was due to shock or not was very appropriate, since the patient was much agitated and very anxious, because a very noisy sailor had been operated upon immediately before she was brought in, which had frightened her very much. Fatty embolism was also suggested as a cause of death; but there was no difficulty in respiration; for the same reason, artificial respiration was not required. The changes in the liver, kidney, and heart explained the fatal result, but they could not be ascertained previous to the autopsy. Ether gives trouble in these cases, perhaps, because so much is taken into the system, and the elimination is very imperfect; but he had reached the conclusion that ether is far safer than chloroform. Schiff and Dalton both use ether in preference to chloroform in their physiological experiments, because so many deaths are caused by the latter. Excluding deaths from mixed anæsthetics, the mortality from ether is comparatively small, since there have been reported only seventeen or eighteen cases in all. Nitrous oxide gas has been used preliminary to the ether with good results; and it has been recommended to give ether prior to chloroform administration. Mr. Dawson, of Leeds, England, was the first, he believed, to attribute the danger of suffocation from the increased secretions of the lungs to the coldness due to the ether in the bronchial tubes. The most recent authoritative statement in regard to anæsthetics was the Scientific Grants Committee of the British Medical Association, who declared chloroform to be the most dangerous, ethidene dichloride next, and ether the least. As matters stand at present, he would rather write upon a death-certificate "Death from ether" than "Death from chloroform."

REVIEWS AND BOOK NOTICES.

ERRATUM.

By a curious typographical blunder, the treatise on "Relapse of Typhoid" reviewed in our last number was attributed to *Dr. J. Pearson*, whereas the author was the late *Dr. J. Pearson Irvine*.

LECTURES ON DISEASES OF THE NERVOUS SYSTEM, ESPECIALLY IN WOMEN. By S. WEIR MITCHELL, M.D. Philadelphia, Henry C. Lea's Son & Co., 1881.

On rising from the rapt perusal of this brochure of some two hundred and twenty-five pages, the exclamation which jumped from involuntarily-moving lips was, "A most extraordinary book, upon an extraordinary subject, by an extraordinary man." The title of the book seems to us a misnomer, and unfortunate,—unless it is part of the rhetorical skill of its author to use a title-page as the server of dinners does a dish-cover, *i.e.*, to hide the good things within. There are thirteen chapters in all, and the monotone which runs through the whole wild chorus of nervous perturbations chaotic is hysteria. The volume might well have been called "lectures upon the hysterical demon in his strangest performances."

It is written in the author's supremely happy style, and is a record of a number of very remarkable cases, with acute analyses and discussions, clinical, physiological, and therapeutical. It is a book to which the physician meeting with a new hysterical experience, or in doubt whether his new experience is hysterical, may well turn with a well-grounded hope of finding a parallelism: it will be a new experience, indeed, if no similar one is here recorded. Possibly the most useful portions of the volume are those detailing the management of individual cases. The means adopted and the reasons therefor are so well given that most practitioners will, we opine, be able to learn and apply with great benefit to patients.

Of course there is much temptation to review such a fresh book as this at length, but—During the last war confiscated liquors were sent to the Medical Museum to be converted into alcohol for preserving purposes, and it was woful to see the little quantum of bright liquid that came from the worm into whose capacious still the dozens of champagne had been so grudgingly thrown. Something like this would happen were we to attempt to abstract the present volume. It does not treat of the hard science of the profession to be densely formulated in a few words, but it is a sparkling clinical discussion of a very rich experience, and as such has a value not to be melted out of it.

COMPENDIUM OF MICROSCOPICAL TECHNOLOGY. A Guide to Physicians and Students in the Use of the Microscope and in the Preparation of Histological and Pathological Specimens. By CARL SEILER, M.D., Late Director of the Microscopical and Biological Section of the Academy of Natural Sciences of Philadelphia, Curator of the Pathological Society, Pathologist and Microscopist to the Presbyterian Hospital, etc., etc. Pp. 130. Philadelphia, D. G. Brinton, 1881.

The author has not given us what his preface leads us to expect,—viz., "a comprehensive treatise on the subject." The matter found in his pages is very good, although it falls short of being complete. Written instructions without demonstration probably will never lead to success in mounting microscopic

specimens, and, whilst the methods here recommended are excellent in themselves, each one is not sufficiently described, nor are they varied enough to form a guide to students.

There are many—too many—incomplete manuals like the present one in existence, and it is only the production of an especially good one that can give excuse for presenting another to the public. The hand-book that is wanted in this department of work is one in which the methods applicable to every organ and tissue in their normal as well as their varied pathological states are thoroughly given. The microscope is one and invariable, and has been described over and over again; microtomes and knives are bought of the dealers, and scarcely any one, and especially not a beginner, makes his own reagents. All these things should be omitted. The coming new book on this subject should tell how to handle every specimen from the time it is taken from the body until it is on the microscope ready for examination. The causes of errors in manipulation should be as clearly stated as the method of procedure. We know of no one more capable than the author, with his ample experience, of giving us such a book.

The letter-press and illustrations are good. We note some *unusually* spelled and incorrectly used words. The book is more than worth its price to microscopists, in order to become familiar with Dr. Seiler's mode of work, which has won for him so good a name as a *préparateur*. M. L.

Diseases of Children. By William Henry Day, M.D. Second Edition. Philadelphia, Presley Blakiston, 1881.

A careful examination of this book leads us to characterize it as a plain, straightforward treatise upon the subject of which it treats, well written (except in some rare places), giving sound practical advice, and capable of fulfilling its mission in the world. On the other hand, it seems to us to contain nothing very novel, either in fact or in the statement of the fact; so that it will not supersede the older treatises, but perhaps divide the markets with them. We have only one fault to find, —namely, that modern therapeutics are not in all cases fairly represented. As examples: no mention is made of the great value of jaborandi in the treatment of acute Bright's diseases; and on page 332, where the treatment of true croup is being discussed, we read, "Tartrated antimony is our sheet-anchor as a medicinal agent, from its certainty in effecting free and speedy vomiting." Few of our readers, we judge, but what would agree with us in thinking this very bad practice. Alum, sulphate of zinc, etc., not the horribly depressing antimony, act best,—at least, on this side of the Atlantic. The book contains about seven hundred and fifty pages of large, clear type, printed on paper of a moderate grade.

GLEANINGS FROM EXCHANGES.

Benzoate of Sodium in the Treatment of Acute Rheumatism.—Dr. David MacEwen (*Brit. Med. Jour.*, vol. i., 1881, p. 336), observing that benzoic acid is closely similar to salicylic acid in chemical composition, and somewhat the same in physiological effects, endeavored to determine whether it, like the latter, possesses anti-rheumatic properties. He publishes notes of five cases in which the remedy was employed in the form of benzoate of sodium. On the first occasion in which he used it, the relief of pain and subsidence of fever were so immediate, and the recovery was so rapid and complete, that he had no hesitation in adopting the same treatment in subsequent cases. The dose was, in the earlier cases, fifteen grains of the salt every three hours; in the later cases, twenty grains every two hours. In all the cases the symptoms passed off in periods varying from three days to a week after the commencement of the medicine; in none did cardiac complications arise in the course of treatment, and Dr. MacEwen thinks the convalescence was more rapid than in cases he had seen treated with salicylate of sodium. Benzoate of sodium possesses this advantage, that it does not give rise to the nausea and depression or the unpleasant head-phenomena which the salicylate frequently produces. It is most conveniently prescribed in the form of a mixture, and it may be given in doses of fifteen to twenty grains every two or three hours. It should also be continued in diminished doses for twenty-four to forty-eight hours after the rheumatic symptoms have disappeared.

Salicylate of Cinchonidia.—Dr. Prosser James (*Brit. Med. Jour.*, vol. i., 1881, p. 428) urges the use of this salt as a very useful tonic and antiperiodic in neuralgia, rheumatism, sciatica, etc. In such cases five grains may be given every two hours, or ten grains may be given at once, and afterwards three or four doses of five grains at intervals of two or three hours. This salicylate is cheaper than that of quinia, and can be procured without difficulty in this country. According to Dr. James, it is incompatible with iron. It is rather insoluble, and therefore the bitter taste is not quickly perceived; it may be given as a powder in wafer-paper or in a pill, or it may be suspended in a liquid, though this is not an agreeable method of taking it. Dr. James prefers to give the remedy in compressed tablets. A patient who suffered acutely with neuralgia of the fifth nerve, which had twice been arrested by gelseminum, took for the third attack two tablets (five grains each?—Ed.), repeating the dose in an hour: this sufficed. Dr. James has also used the remedy in pleurodynia and in the pains of chronic rheumatism. He has not yet tried it in acute rheumatism, but thinks that the substitution of salicylate of quinia

(or cinchonidia) instead of the salt of soda would be an advantage. In chronic cases of neuralgia and rheumatism, and in malaria, the salt will also probably be found useful. As a tonic and stimulant to appetite it may be given for a longer period in doses of two to five grains thrice daily.

THE PROPAGATION OF SYPHILIS BY RAZORS.—M. Desprès (*Brit. Med. Jour.;* from *Jour. des Connaissances Méd.*, Dec. 2, 1880) has lately published two cases in which syphilis appeared to have been communicated through the medium of the razor during the process of shaving. In the first case, a man, aged 54, of steady habits, and with no history of venereal disease, was shaved by a barber on July 11, 1880. The man observed, after being shaved, that he had three small cuts on the chin. On July 25 the patient (who had had no relations with women for ten weeks) noticed a swelling at the site of each of the cuts first noticed after the shaving. On September 1 the patient came under the care of M. Desprès, having been sent to that surgeon as a case of epithelioma. On examination there were found three ulcers on the chin, surrounded by some red and moderately hard callosities. There was a hard gland beneath the jaw, but none elsewhere. No other signs of syphilis were discovered at that time. On September 15 a papular syphiloderm appeared. The second case, that of a young man, aged 22, was in many respects similar to the preceding. In him also the initial lesion appeared on the chin, but the patient did not remember having been cut by the razor. In due time glandular enlargement and a general syphiloderm appeared.

A NEW METHOD OF APPLYING NITRIC ACID AS A CAUSTIC.—Dr. Speirs (*Practitioner*, April, 1881), having occasion to destroy a nævus the size of a hazel-nut, situated on the left cheek, under and encroaching on the lower eyelid in an infant, employed nitric acid by the following method:

Taking a two-ounce wide-mouthed vial, he broke off the body close to the neck, inverted the latter over the nævus, pressing the rim of glass firmly down upon the skin. This had the effect of forcing the tumor well up into the neck of the vial; and when the acid was applied by means of a pipette, it acted freely upon the whole surface of the nævus. Before removing the vial-neck, Dr. Speirs carefully mopped out all excess of acid with some cotton-wool on a probe. He then had the satisfaction of seeing a well-defined, circular slough, rather depressed, but with clean-cut edges, as if a punch had been used. The child suffered very little pain, and was easily pacified by being put to the breast. The action of the acid was found to have been entirely confined to the tumor, which was completely obliterated. No cicatricial contraction of the eyelid ensued, and the operation was completely successful.

URIC ACID AND GOUT.—Austin Meldon (*Brit. Med. Jour.*, vol. i., 1881, p. 446) maintains the following theses: 1. The presence of uric acid in the blood is not the sole cause of gout. 2. Want of exercise and of animal diet will produce an accumulation of uric acid in the blood. 3. Uric acid and soda must exist in the blood before the disease can be produced. 4. There must be depression of the nervous system to cause an attack of gout. 5. Depression of the nervous system causes a union between uric acid and soda, forming urate of soda. 6. When an attack of gout has passed away it does not necessarily follow that the uric acid has disappeared from the blood. 7. Uric acid may exist in the blood in considerable quantities and for any length of time without causing gout. 8. The use of nerve-tonics, as quinine, strychnia, and caffeine, and such like, as well as the inhaling of oxygen and the use of electricity, are of much service in the treatment of the disease.

TUPELO TENTS FOR DILATING THE UTERUS.—Dr. Landau (*Med. Times and Gaz.*, vol. i., 1881, p. 327; from *Volkmann's Samml. Klin. Vorträg.*), in a lecture on methods of dilating the cervix uteri, strongly recommends the tupelo tent, made from the root and stem of the *Nyssa aquatica*. He says these tents expand more uniformly than laminaria tents, and their coefficient of expansion is somewhat greater than that of any other tent. In expanding they produce the same softening and infiltration of the uterine tissues as other tents. They do not tend to septic infection; and therefore antiseptic precautions need not be rigidly carried out where they are used. One tent may be kept in three or four hours, and then replaced by another. The cavity of the uterus may thus be made accessible to the finger within twenty-four hours. In two years' use, Dr. Landau has seen no ill effects from their employment.

TREATMENT OF LEUCORRHŒA IN CHILDREN.—Leucorrhœa in children, says M. Bouchut (*Practitioner;* from *Le Praticien*), is caused by vulvitis, not vaginitis or metritis. He therefore treats this condition by extreme cleanliness, repeated bathing with bran-water and lead-water, lotions of corrosive sublimate (two grains to ten ounces of water), carbolic acid (two grains to the ounce), and occasionally solution of nitrate of silver (three grains to the ounce). In the intervals of applying the lotions a pledget of lint saturated with coal-tar or an ointment of red precipitate may be placed between the labia. Such a pledget kept in place by a pad protects the surrounding parts as well as the labia themselves from the irritating secretion, which is often present in considerable quantities. For the general treatment M. Bouchut recommends the administration of cod-liver oil and quinine to strumous patients, and of arsenic to those with eczematous eruptions.

LEAD-POISONING FROM THE USE OF COSMETICS.—At the recent meeting of the Kentucky State Medical Society (*New York Med. Record*, vol. i., 1881, p. 525) Dr. Holland called attention to the fact that there are certain distinctive, though rather vague, symptoms of lead-poisoning which precede the more marked symptoms of wrist-drop, colic, and lead-line, and which, when more carefully studied, would suffice to lead to an earlier diagnosis. These symptoms he described as headache, vertigo, slight colicky pains, and constipation. He then gave notes of the case of a woman who, two years ago, began the use of flake-white powder as a cosmetic. After exhibiting the symptoms already mentioned, she had an attack of melancholia of a month's duration; afterwards, the signs of plumbism—double wrist-drop and the blue line on the gums—were abruptly presented. He related in detail several similar cases illustrating the essential points deduced from the paper,—that lead may be introduced into the system to the extent of its toxic effects when applied on the skin in the form of powder and lotions; that the most popular beautifying cosmetics contain lead. The results of the chemical analysis of various popular cosmetics were given in detail.

SYPHILIS AND LOCOMOTOR ATAXIA.—In a recent number of the *Centralblatt für Med. Wissen.* (*Lancet*, vol. i., 1881, p. 592) Erb has published an additional series of facts confirmatory of those previously brought forward by himself as well as those of Dr. Gowers. Of one hundred consecutive cases of tabes, only twelve gave no history of a chancre or of secondary symptoms. The interval between the primary sore and the first symptoms of the ataxia was ascertained in eighty-eight cases; it was between three and five years in seventeen cases, between six and ten years in thirty-seven cases, between eleven and twenty years in twenty-four cases, and more than twenty years in ten cases. In order to ascertain the truth of the objection that the large percentage of cases of ataxia with preceding venereal sores or of constitutional syphilis is due simply to the commonness of the latter, Erb has investigated the history of four hundred individuals over twenty-five years of age, who were under treatment for diseases which were not suspected to have any relation to syphilis. Only twenty-three per cent. of these gave a history of syphilis, while the percentage of ataxic individuals giving a history of syphilis was eighty-eight! Erb thinks this justifies the conclusion that there must be an etiological connection between syphilis and locomotor ataxia.

SOME NEW USES OF SALICYLIC ACID.—Dr. George Kemp (*Brit. Med. Jour.*, vol. i., 1881, p. 510) says that salicylic acid may be used beneficially as a counter-irritant in superficial rheumatism. Thirty grains of the acid in an ounce of any suitable unguent has been found to alleviate local pain to a remarkable degree. Its advantage is greatly enhanced by the addition of iodide of potassium in an equal quantity. Another use of the remedy is in the form of enema. A case of obstinate dyspepsia with fermentation, only relieved by emetics, and accompanied by constipation and scybala, was treated by enema, with thirty grains of salicylic acid and half an ounce of tartrate of potash dissolved in a pint and a half of lukewarm water. The result was remarkable; the colon was not only relieved of its scybala, but its tonicity was greatly restored, suitable general treatment being resorted to at the same time.

VARIOUS FORMS OF IRON SUITABLE IN THE ANÆMIA OF CHILDREN.—Dr. Jacobi (*New York Med. Record*, 1881, p. 76) recommends in the anæmia of children the lactate (adult dose 1 to 2 grains, soluble in 48 parts water), the tincture of the malate, the tincture of the chloride, the pyro-phosphate (adult dose 2 to 5 grains, soluble in 1 to 2 parts water), and the subcarbonate (dose 5 grains and upwards, insoluble). The syrup of the iodide is called for when an absorbent is wanted. The subcarbonate, combined with three times its weight of subcarbonate of bismuth, and three or four times its weight of bicarbonate of sodium, is especially beneficial when gastric catarrh interferes with general improvement during slow convalescence or progressive anæmia. The tincture of the chloride must be regarded as a vascular irritant; it is the most beneficial preparation where the action of the heart is lowered and blood-pressure is lacking.

MR. SPENCER WELLS'S THOUSANDTH OVARIOTOMY.—At a recent meeting of the Royal Medical and Chirurgical Society (*Lancet*, vol. i., 1881, p. 332) Mr. T. Spencer Wells read a paper on "Two Hundred Additional Cases, completing One Thousand Cases of Ovariotomy, with Remarks on Recent Improvements in the Operation." The mortality of the ninth series was 17; of the tenth, 11. Among the 1000 cases, 231 had died and 769 recovered; but the mortality had steadily diminished from 34 in the first hundred to 11 in the last. Since the 888th case all the operations have been in private practice, and all have been done antiseptically, the result being a mortality of 10.6. Mr. Wells discussed the question how far this lessened mortality was due to antiseptic precautions or to other recent improvements in the mode of operating, describing in detail various modifications in each step of the operation.

NATURAL HISTORY OF LEUCODERMA.—Mr. Squire (*Brit. Med. Jour.*, vol. i., 1881, p. 499) gives the case of a patient in whom vitiligo appeared on the backs of the hands at the age of 38, and disappeared again at the end of six years. The course of this disease is rarely recorded.

THE TREATMENT OF SOFT FATTY TUMORS.—Dr. Schwalbe, at the recent congress of German surgeons (*New York Med. Rec.*, vol. i., 1881, p. 528) described a method of treating telangiectases, soft fatty tumors, and even small herniæ, by the injection of a fifteen- to twenty-per-cent. solution of alcohol. By these injections—which in most cases he repeats perhaps twice a week, and for a prolonged period if necessary—he has secured some excellent results. An extensive telangiectasis of the face which had resisted treatment by the Paquelin cautery had been treated by successive alcohol injections, securing a gradual shrinkage and almost entire disappearance of the tumor.

AN OLD TREATMENT OF DYSENTERY REVIVED.—Mr. Henry Colley March (*Med. Times and Gaz.*, vol. i., 1881, p. 319) says that in the ordinary dysentery of adults with some fever, much griping, constant attempts at stool, with tenesmus, the evacuations consisting of bloody and shreddy mucus, without any proper fecal matter, the proper procedure is to give every half-hour half a minum of the liquor hydrargyri bichloridi (B. P.). The first dose will sometimes relieve the pain; in a few hours the tenesmus ceases, and on the second or third day healthy stools make their appearance. Mr. March looks upon the remedy as the perfection of medication as a specific tonic.

ACUTE ARTICULAR RHEUMATISM OCCURRING IN A CHILD NINE MONTHS OF AGE.—Rheumatism is so rare in the earlier years of life as to be hardly even mentioned by such writers as West and Vogel. Dr. Garden gives (*Practitioner*, March, 1881) the case of an infant of nine months who caught cold from bathing in cold water. Rheumatism followed, affecting the knee- and ankle-joints. These were wrapped in cotton and three grains of salicin thrice daily were prescribed. The patient recovered in a fortnight without showing any signs of heart-complication.

CHRYSOPHANIC ACID IN PSORIASIS.—A correspondent of the *Lancet* (vol. i., 1881, p. 524) says that Prof. Charteris has described in his lectures some cases in which it was very evident that chrysophanic acid acted constitutionally as well as locally. In one very severe case, he, having previously very carefully wrapped up the arm and leg of one side in cotton-wool, applied chrysophanic acid (one drachm to an ounce) to the leg of the opposite side. In ten days the cure was complete, and on removing the cotton-wool from the other side it also was found to be quite cured of the psoriasis. This shows that the drug acts constitutionally as well as locally (?—ED.).

PALATABLE COD-LIVER OIL.—Mr. Fairthorne, the well-known pharmaceutist of West Philadelphia, suggests (*Pharmaceutical Journal*) a new method of administering cod-liver oil, which consists in adding two drachms of tomato- or walnut-catsup to each ounce of the oil, the mixture being shaken before taken. Mr. Fairthorne also states that the following mixture is readily taken by the patient: Liebig's extract, one-half ounce; extract of celery-seed, half a fluidrachm; vinegar, one fluidounce; water, two fluidounces; cod-liver oil, five ounces. The extract of beef is dissolved in the water, the vinegar and oil are added, and the whole shaken with the extract of celery.

ALOPECIA FROM NERVOUS SHOCK.—Dr. Thomas H. Kinney (*Virginia Med. Monthly*, 1881, p. 937) gives the case of a man of 35, who was driving along the road in his cart one day last summer when the lightning struck a tree very near him. His mule was knocked down, and he himself was rendered insensible. He thought he was unconscious twenty or thirty minutes. With the exception of a dazed feeling about the head, which lasted for twenty-four hours, his health was apparently unaffected.

Six or eight days after the shock, the hair on the scalp, face, axillæ, genitals, etc., began to come out, and in a few days he was as hairless and smooth-skinned as an onion.

The after-history of the case is not given.

DESTRUCTION OF TRICHINÆ.—Recent investigations of Dr. Vacher, of Paris, go to show that boiling does not necessarily render trichinosed meat innocuous. He took a leg of pork of moderate size and boiled it thoroughly. A thermometer placed within it at a depth of two inches and a half registered, after half an hour's boiling, 86° Fahr., after boiling for an hour 118°, after an hour and a half 149°, and after two hours and a half, when the joint was thoroughly cooked, 165°. This temperature, M. Vacher maintains, is insufficient to kill the encapsuled trichinæ.

IN ANOREXIA.—M. Huchard recommends the following stomachic for persons who suffer from debility with loss of appetite:

℞ Tinct. cardamomi comp., f℥i;
Tinct. anisi, f℥i;
Tinct. aurantii corticis,
Tinct. gentianæ,
Aquæ menth. pip., āā, f℥iiss;
Aquæ ad f℥i. M.

Sig.—Teaspoonful between meals.

FORTUNATE PROGRESS OF PROFESSOR BILLROTH'S CASE OF EXCISION OF THE PYLORUS.—Professor Billroth's famous case of excision of the pylorus with part of the small intestine lately reported continues to make good progress. The patient has been able to take not only a milk diet, but also, lately, white meats, and has lately left the hospital convalescent.

DR. JACOBI says that strychnia in his hands has proved a valuable adjuvant to iron or arsenic in the treatment of the anæmia of children. To a child two years old it may be given with safety in doses of one-fortieth of a grain daily (in three doses?—ED.), and continued for a long time.

COD-LIVER OIL AND IODOFORM.—Dr. Fonssagrives (*Med. Times and Gaz.*, vol. i., 1881, p. 377; from *Union Méd.*) recommends the following formula: Pale cod-liver oil, 3 ounces; iodoform, 4 grains; essence of anise, 4 drops. The addition of the iodoform and anise masks greatly the taste and smell of the oil, while in every tablespoonful there is one-sixth of a grain of metallic iodine. Persons taking the ordinary cod-liver oil should add a small quantity of table-salt, which greatly modifies its unpleasant taste and facilitates digestion.

MISCELLANY.

CAN A MAN GRADUATE WITHOUT SEEING A CASE?—In New York, apparently, he can. Dr. R. F. Weir, in a letter to the *New York Medical Record*, says that he can say, from personal knowledge, that "a student may graduate without ever having dissected any part of the human body, without ever witnessing or attending a midwifery case, or without ever being present at a hospital clinic." It is also possible for a student "to graduate in less than a year from the beginning of his actual study."

FATAL RESULT OF APPLICATIONS OF PERCHLORIDE OF IRON BY A PHARMACEUTIST.—At a recent meeting of the Anatomical Society of Paris, Dr. Galliard related the case of a man suffering from epistaxis who had been cared for by a druggist. The druggist had tamponned the nasal passages repeatedly during several days with perchloride of iron solution. Death supervened, and at the autopsy gangrenous inflammation of the upper air-passages was observed, with iron-stains, extending through the cribriform plate of the ethmoid to the arachnoid membrane.

REMARKABLE CASE OF EARLY MATERNITY.—Mr. Henry Dodd, of Rillington, York, gives (*Lancet*, vol. i., 1881, p. 601) the account of a joiner's wife delivered, August 8, 1871, of a female child who began to menstruate at twelve months, at first irregularly, but after the seventh year regularly every three weeks. The child ceased to menstruate on June 22, 1880, having been impregnated when eight years and ten months old, and was delivered, at full term, of a child weighing seven pounds. There was nothing remarkable about the appearance of the child, but the hirsute growth over the pubes and in the axillæ was profuse, the breasts large and, at the time of report, gorged with milk.

NEW EXPERIMENTS IN THE ARTIFICIAL PRODUCTION OF TUBERCULOSIS.—M. Hippolite Martin has presented to the Biological Society of Paris specimens of artificially-excited tuberculosis in rabbits resulting from the injection of apparently inert powders (lycopodium, etc.) into the peritoneal cavity.

THE Northern Medical Society of this city has elected two women physicians to the honors of membership.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM MAY 15 TO MAY 28, 1881.

KEENEY, C. C., LIEUTENANT-COLONEL AND SURGEON.—When relieved by Surgeon Baily, to await orders at San Francisco, Cal. S. O. 112, c. s., A. G. O.

BAILY, E. I., LIEUTENANT-COLONEL AND SURGEON.—To report in person to the Commanding General, Military Division of the Pacific and Department of California, for assignment to duty as Medical Director of the Department of California, relieving Surgeon Keeney. S. O. 112, A. G. O., May 16, 1881.

MCPARLIN, T. A., LIEUTENANT-COLONEL AND ASSISTANT MEDICAL PURVEYOR.—When relieved by Surgeon Clements, to proceed to San Francisco, Cal., and assume charge of the Medical Purveying Department in that city, relieving Captain Henry Johnson, Medical Storekeeper. S. O. 112, c. s., A. G. O.

CLEMENTS, B. A., MAJOR AND SURGEON.—To be relieved from duty at Willet's Point, N.Y., June 1, 1881, to proceed to New York City, and assume the duties of Attending Surgeon there, relieving Lieutenant-Colonel McParlin. S. O. 112, c. s., A. G. O.

BACHE, D., MAJOR AND SURGEON.—His leave for one month on account of sickness extended one month. S. O. 79, Division of the Pacific and Department of California, May 17, 1881.

BILLINGS, J. S., MAJOR AND SURGEON.—To proceed to London, England, as a delegate to the International Medical Congress to meet there August next. He will also visit, on public service, such points in Holland, Belgium, Germany, and elsewhere, as may be deemed necessary by the Surgeon-General of the army. S. O. 110, A. G. O., May 13, 1881.

TREMAINE, W. S., CAPTAIN AND ASSISTANT-SURGEON.—His leave of absence on account of sickness, granted him January 20, 1880, from this office, further extended six months on Surgeon's certificate of disability. S. O. 112, A. G. O., May 16, 1881.

MEACHAM, F., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty at Fort Hamilton, and assigned to duty as Post-Surgeon, Fort Wadsworth, New York Harbor, relieving Assistant-Surgeon Burton. S. O. 90, Department of the East, May 20, 1881.

PATZKI, J. H., CAPTAIN AND ASSISTANT-SURGEON.—When relieved by Assistant-Surgeon Cuningham, to proceed to St. Augustine, Fla., and relieve Assistant-Surgeon Gardner from duty as Post-Surgeon. S. O. 45, c. s., Department of the South.

WOODRUFF, E., CAPTAIN AND ASSISTANT-SURGEON (now awaiting orders in New York City).—To report to Commanding Officer, Willet's Point, N.Y., to relieve Surgeon Clements. S. O. 116, A. G. O., May 21, 1881.

WORTHINGTON, J. C., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty at Fort Wayne, Mich. S. O. 86, Department of the East, May 14, 1881.

SHANNON, WILLIAM C., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty at Fort D. A. Russell, Wyoming. S. O. 44, Department of the Platte, May 21, 1881.

CUNINGHAM, T. A., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to duty at Jackson Barracks, La. S. O. 45, Department of the South, May 14, 1881.

BURTON, H. G., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to temporary duty at Fort Hamilton, New York Harbor. S. O. 90, Department of the East, May 20, 1881.

BRECHEMIN, L., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty at Fort Meade, D.T., and assigned to duty at Fort Yates, D.T. S. O. 84, Department of Dakota, May 10, 1881.

PHILADELPHIA, JUNE 18, 1881.

ORIGINAL COMMUNICATIONS.

AN ACCOUNT OF FOUR CASES OF PERNICIOUS MALARIAL FEVER.

BY LOUIS STARR, M.D.,
Physician to the Episcopal Hospital, Philadelphia.

MALARIAL fever may endanger life when it occurs in the very old or very young, and in those enfeebled by disease or other causes; but the term *pernicious* should be restricted to instances in which the symptoms are severe and the paroxysms are prolonged, or in which the effect of the poison falls with special and dangerous violence on a particular organ.

The comatose, the algid, and the hemorrhagic are the chief forms of pernicious fever; other and minor forms are the delirious, the choleraic, the eclamptic, the tetanic, the pneumonic, and so on, an almost endless variety of names being bestowed according to the symptoms most prominently developed.

A number of cases of malaria, of different degrees of severity, were admitted to the medical wards of the Episcopal Hospital during my last term of service, and among them were four examples of pernicious fever. These are worthy of record as well for their intrinsic interest as on account of the comparative rarity of this type of fever in our climate.* I will detail the cases in the order in which they were presented, the histories being compiled from the ward-notes of my resident, Dr. Charles M. Seltzer.

Case I.—Peter ——, æt. 23, by trade a blacksmith, but for several months employed as a hand on a canal-boat, was brought to the hospital at noon on October 11, 1880. The only information obtainable was that he had complained of irregular chills for a few days before, that he had been unable to work on the day preceding, and that on the morning of the 11th he was found in his bunk in an unconscious condition.

On admission, there was profound coma, the skin and conjunctivæ were slightly yellow, the lips and extremities were blue, the surface felt cool, the power of deglutition was suspended, there was bilious vomiting, a tendency to rigidity and convulsive movements of the limbs, and retention of urine. The spleen was greatly increased in size. The respiration was rather labored, and the pulse feeble. A specimen of the urine, removed by a catheter, was found to be unaltered in composition. Sinapisms were applied to the nape of the neck and to the extremities, four grains of sulphate of quinia were injected hypodermically, and nutritious and stimulating enemata were administered. During the afternoon there was a trifling reaction, but there was no return of consciousness, and death occurred before midnight.

At the *autopsy* the spleen was found to be almost black in color, and greatly enlarged, approaching very nearly in size the right lobe of the liver. The liver itself and the cortical portion of the brain were bronzed, the veins and sinuses of the latter were engorged with blood, and there was noticeable sub-arachnoid effusion over the convexity of the cerebrum. The other organs of the body were healthy.

After excluding injury to the skull, and the probability of opium- or alcohol-poisoning, the question to be decided was whether this man was suffering from apoplectic coma due to cerebral hemorrhage or embolism, from uræmic coma, or from the comatose form of pernicious malarial fever. His age and occupation, the history of irregular ague paroxysms, the slight jaundice of the skin and conjunctivæ, the cyanosis of the lips and extremities, the coolness of the surface, the bilious vomiting, and, most of all, the enlargement of the spleen, pointed directly to malarial poisoning. At the same time, the absence of paralysis and organic lesion of the heart and blood-vessels opposed the theory of apoplexy suggested by the deep coma and labored breathing, and the unaltered composition of the urine, that of uræmia, suggested by the convulsive movements of the limbs.

The coma in pernicious fever is usually not so profound as it was here, for ordinarily patients can be roused to answer questions in peevish monosyllables, and low murmurs of complaint, indicating, perhaps, severe headache, may often be heard. This difference, though, was one merely of degree, and may be attributed to the well-defined cerebral lesions observed at the post-mortem examination. The dark color of the cortical portion of the brain, and of the liver and spleen, together with the great enlargement of the latter organ, while confirming the diagnosis, indicated that the paludal influence had been active for a

* Of 780 cases of malaria treated in the Episcopal Hospital during the last ten years, my four cases are the only instances of pernicious fever recorded.

much longer time than might be inferred from the notes.

The record of the next patient's illness illustrates a different and in some respects anomalous train of symptoms.

Case II.—Wm. ——, a laborer, 24 years old, was brought to the hospital on the morning of November 10, 1880. The police-officer who had him in charge stated that he had found him in a semi-unconscious condition upon a vacant lot near the hospital, lying by a cart in which he had been hauling ashes. Afterwards it was ascertained that for a week or more he had had irregular attacks of chills, fever, and sweating.

When admitted, there was great hebetude, questions having to be repeated several times, and being responded to slowly and only in monosyllables. His face was expressionless, and, together with the hands and feet, cyanosed. The conjunctivæ were yellowish and somewhat injected. The extremities felt cold, though the axillary temperature was 103° F. The skin of the trunk and thighs was thickly covered with small, dusky-red, petechial spots. His hands were tremulous, and there was general hyperæsthesia. His tongue was coated; there was obstinate vomiting of bile-stained mucus; the belly was unaltered in shape, and there was no very decided enlargement of the spleen. The cardiac sounds were feeble, and the pulse counted 124; the respiration was irregular and somewhat labored, and bronchial râles were heard over the posterior portions of both lungs. There was retention of the urine, but this fluid was normal in composition.

The patient was at once put to bed, the lower bowel was emptied by an enema, two grains of sulphate of quinia and fifteen minims of dilute muriatic acid were administered every three hours, with a diet of milk and beef-tea, and eighteen fluidounces of milk-punch (one fluidounce of whisky to two of milk), in divided doses.

The vomiting recurred at intervals throughout the day, and as evening approached there was slight muttering delirium; the temperature at 6 P.M. was 99°, the pulse 140. During the night there was considerable restlessness and delirium.

On the morning of November 11 the temperature was 98°, the pulse 132; in the evening the temperature was 102° and the pulse 120. From this date until November 17 the fever presented a decidedly remittent type; the nervous symptoms continued, although they became less marked day by day; there was also diarrhœa, and a troublesome cough, attended with a free expectoration of mucus, occasionally streaked with blood. The vomiting, on the contrary, stopped, the petechial eruption faded, and there was a gradual improvement in the appetite and strength. At 8 A.M. on the 17th the temperature was 96.5° and the pulse 76; subsequently the temperature rose to the normal line, and convalescence proceeded uninterruptedly. The amount of quinia and of milk-punch was slowly reduced, and the diet increased.

The patient was discharged on December 13, 1880.

Here the pernicious paroxysm was preceded by an irregular intermittent fever and followed by a fever which was unmistakably remittent in character.

At first sight the symptoms closely resembled those of typhus fever; thus, there was great hebetude, injection of the conjunctivæ, tremulousness, and hyperæsthesia, a petechial eruption, a high temperature, and a feeble, frequent pulse; on account, however, of the obstinate vomiting, the slight jaundice, and the cyanosis and coolness of the extremities, a positive diagnosis was not made. This reservation proved to be fortunate, as the malarial nature of the disease became apparent after the history was obtained and the range of temperature observed for forty-eight hours.

I have never noted petechial spots in any other case of malaria, and can only explain their existence in this one by supposing them to have been an anomalous manifestation of an inclination towards that form of the disease which is termed *hemorrhagic malarial fever*, and which usually manifests itself by hæmaturia, or by bleeding from the mucous membrane of the stomach, intestinal canal, mouth, or nostrils. When reaction began and the blueness of the lips and extremities disappeared, the skin of the hands and arms, as high as the elbows, presented a red coloration. This redness, associated with the petechiæ, brought to mind the "sub-cuticular mottling" of typhus, described by Dr. George Buchanan as "a faint, irregular, dusky-red, fine mottling, as if below the surface of the skin some little distance and seen through a semi-opaque medium." But as there was also some roughness and slight cracking of the epidermis, the condition was referred to the irritation produced by fine particles of the ashes in which he had been working for some time.

Bronchitis, in my experience, is neither a rare nor a dangerous complication of malarial fever. In my cases the bronchial catarrh has always pursued a regular course, and has not been perceptibly influenced by remissions or intermissions in the fever, although one can readily understand the

occurrence of the intermittent bronchitis and pneumonia mentioned by Hertz.*

The next case is an example of the comatose form of pernicious intermittent fever, and resembles Case I., though the result of treatment was different.

Case III.—Wm. ——, æt. 29, entered the hospital early on November 25, 1880. He was a weaver by occupation, was temperate in his habits, and had never had any serious illness. For several years he had worked and resided within a short distance of the hospital. For eight days before admission he had been subject to ordinary paroxysms of quotidian intermittent fever, and during the twenty-four hours immediately preceding had suddenly become unconscious.

When admitted, he was in a state of semi-coma, loud questioning producing merely unintelligible muttering and slight knitting of the forehead. His face, lips, and finger-nails were bluish, while the rest of the surface was pale; there was general hyperæsthesia of the skin, evidenced by the contraction of the brow and low moaning which followed even a light pinch; the forearms and hands were rigidly semi-flexed; the thumbs were locked, and there were occasional convulsive movements of the arms; the pupils were equal. His tongue was dry and brown; it was impossible to induce him to swallow; there was infrequent vomiting of a yellowish liquid, and the bowels were loose. The abdomen was retracted; the liver-dulness was normal in extent, but the area of splenic dulness was considerably increased. The heart-sounds were healthy; sonorous and sibilant rhonchi were audible over both lungs; the pulse was 96 and feeble, the respiration 20 per minute, and the axillary temperature 100.5° F. The urine, removed by a catheter, was non-albuminous. The treatment consisted of three hypodermic injections of four grains of sulphate of quinia, given at intervals of six hours, sinapisms to the calves, and enemata of milk, together with whisky, and of beef-tea, alternately every four hours. The evening temperature was 100°, and the pulse 92.

By the next morning—November 26—there was much improvement; consciousness had to a great extent returned; the hyperæsthesia, the rigidity of the arms, and the cyanosis had nearly disappeared; the tongue was moist, deglutition was performed with little difficulty, and the vomiting and diarrhœa had ceased. Temperature, 99.5°; pulse, 92. The hypodermic injections were discontinued, two grains of sulphate of quinia and fifteen minims of dilute muriatic acid being administered by the mouth every three hours; the nutritious enemata were also substituted by a diet of milk and beef-tea, with six fluidounces of whisky in the form of milk-punch.

* Ziemssen's Cyclopædia, vol. ii. pp. 611, 612.

After this, with the exception of a trifling attack of lumbago, which yielded readily to counter-irritation, convalescence progressed steadily, and the patient was discharged, perfectly recovered, on December 10, 1880.

In the next case, also an instance of *febris comatosa*, the stage of stupor was succeeded by one of violent delirium; in other words, the distinguishing features of two varieties of pernicious fever—the comatose and the delirious—were associated in the same patient.

Case IV.—D. B., æt. 18, a baker, of temperate habits, residing within a few blocks of the hospital, was admitted at 10 A.M. on November 27, 1880. The friend who brought him stated that for several days he had had paroxysms of chills and fever, and that early on the 27th he suddenly became unconscious. When admitted, he was in a condition of stupor. The pupils were equal and rather dilated; the face, hands, and feet were cyanosed; the arms were rigidly semi-flexed; the thumbs drawn down into the palms, and the fingers tightly clinched over them. His tongue was frosted; it was difficult to introduce liquid into the mouth, and impossible to induce him to swallow. The abdomen was natural in shape. The skin, especially of the extremities, felt cool to the hand.

When I first saw him, two hours later, there was less rigidity of the arms, and pressure over the abdomen caused him to frown and groan uneasily. The axillary temperature was 102° F., the pulse 92 and quite strong, and the respiration slow and rather labored. There was some increase in the area of splenic dulness. The heart and lungs were healthy. The urine, removed by a catheter later in the day, was found to be non-albuminous. The treatment comprised sinapisms to the calves, two hypodermic injections of four grains of sulphate of quinia, one at noon and the other at 6 P.M., a simple enema to clear out the rectum, and subsequently enemata of milk and whisky, and of beef-tea.

During the night of the 27th there was some delirium, and on the 28th he became so violent that restraint was necessary. The face became flushed; the rigidity of the arms disappeared. The temperature at both the morning and evening observations was 101°, and the pulse 88. There was still retention of urine. He swallowed a little food, but the quantity was so small that the nutritious enemata were continued at intervals of four hours. Two hypodermic injections of quinia, four grains each, were given.

On the 29th there was considerable improvement, and he swallowed enough milk and beef-tea to warrant the suspension of the nutritious enemata. Upon the next day he was perfectly conscious and rational. He swallowed easily and readily, passed urine

freely, and had a normal temperature and pulse. Twelve grains of quinia were given by the mouth during the day, the diet of milk and beef-tea was continued, and, as the pulse was somewhat feeble, he was ordered milk-punch.

After this, convalescence was rapid, and he was discharged on December 6, 1880.

In the first, third, and fourth cases during the stage of stupor there was rigidity and even convulsive movements of the limbs, an association of symptoms indicating a simultaneous affection of the brain and spinal cord, and a tendency to the eclamptic and tetanic forms of the disease. Such an association, as well as that of delirium and coma in the fourth case, shows, too, that with this, as with many other diseases, it is often impossible to draw a distinct dividing-line between the different varieties. In regard to prognosis, the danger of a fatal termination seems to be proportionate to the development of the nervous symptoms, perhaps the most unfavorable features being decided convulsions and tetanic spasms.

The point of greatest importance in treating pernicious malarial fever is to get the patient as quickly as possible under the influence of quinia. This is most readily accomplished by administering the drug hypodermically, since it must often happen, as it did in three of my cases, that patients are unable to swallow, or that the large dose required when giving the medicine by the mouth is rejected soon after being swallowed, and since cinchonism follows more slowly and less certainly the employment of suppositories of quinia. The objection to the hypodermic method is the danger of producing an abscess or an eschar at the position of injection. Such a result, though common when the necessary solution is effected by either sulphuric acid or muriatic acid, occurs infrequently when the quinia is dissolved by the aid of lactic acid, or even when it is simply suspended in glycerin. In the three cases referred to, and in a number of instances of ordinary malarial fever, and in several of typhoid fever recently treated in my wards, a solution prepared according to the following formula was used:

℞ Quiniæ sulphatis, gr. xx;
Acidi lactici, ℥xx;
Aquæ, ℥lxxx.—M.

Twenty minims of this solution, containing four grains of sulphate of quinia, were injected at once into the subcutaneous tissue of the arm or thigh. After the injection there was often slight redness, swelling, and tenderness about the puncture, but in not a single instance was an abscess or an eschar produced.

Four grains of sulphate of quinia may be taken as the average hypodermic dose for cases which are sufficiently severe to demand this mode of administration. This quantity is equivalent to three or four times as much by the mouth. The injection may be repeated once, twice, or three times in twenty-four hours, according to the urgency of the symptoms.

If the pernicious paroxysm is prolonged and the power of deglutition is lost, the strength must be maintained by nutritious enemata. Under these circumstances, the rectum should first be thoroughly emptied by a large simple enema, and then, at intervals of four hours, from four to eight fluidounces of milk and four fluidounces of beef-tea may be injected alternately. This gives twelve or twenty-four fluidounces of milk and twelve fluidounces of beef-tea per day, and is about as much as the rectum can dispose of. As, however, the quantity of liquid so introduced is small, it is a good plan to inject, three times during the day, half a pint of water. Both the food and water should be warm when injected, and the addition of pepsin and malt to the former probably facilitates its absorption by producing changes analogous to those of digestion. If stimulants are indicated, half a fluidounce or one fluidounce of brandy or whisky may be added to each enema of milk and of water. Any irritability of the rectum may be overcome by the use of tincture of opium, gtt. v or x to each enema, and it will be found that the food is much more readily retained and disposed of if the large simple enema is repeated once daily to clear away any material that may have escaped absorption. The act of injection should be performed slowly, and afterwards a warm flannel cloth should be held to and pressed lightly against the anus for a few moments.

Revulsion by sinapisms applied to the nape of the neck and to the calves is of great service in aiding to bring about reaction in malarial coma.

After the pernicious paroxysm is broken the plan of treatment does not differ from that followed in malarial fevers generally.

SYMPTOMS (REFLEX) IN AND ABOUT THE EYE, DUE TO SOME AFFECTION OF THE UTERUS OR ITS APPENDAGES.

Read before the Philadelphia County Medical Society, March 10, 1881,

BY WILLIAM S. LITTLE, A.M., M.D.,

Chief of the Eye Clinic, Jefferson Medical College Hospital.

THE physician whose practice is confined to the affections of one organ or set of organs of the body occasionally discovers a class of cases apparently claiming attention to that organ alone; yet an investigation reveals no lesion, but only reflex symptoms existing, due to disease in some organ proximal or distal, and treatment should either by himself or a proper authority be applied to the source of trouble, so as to obtain special and general relief.

The restriction of one's practice should be the outgrowth of well-founded study of general medicine and surgery, both theoretically and practically. Desire may make a specialist; necessity should always claim his general capabilities.

The ophthalmologist comes across persons who seek relief from eye-trouble or are referred for treatment of supposed eye-disease, yet no lesion is found; or, if treatment is applied for the disease of the eye to which such symptoms belong, no relief ensues. A variety of diseases of the eye present common symptoms; but in this class of cases, finding another organ at fault, treatment of this not only relieves the eye, but a general improvement results.

Reference is made to cases where only eye-symptoms are present and the inference is natural that the eye is at fault, the patient complaining of nothing else, and no available symptoms being present to make the physician think otherwise.

Students should be taught that the eye is part of the body, presenting anatomical conditions, mechanical action, and tissues found elsewhere in the body; and that proximal and distal organs, when in health, have a sympathetic union with the eye; and, when diseased, have secondary, if not primary, lesions in the eye, or produce sympathetic conditions which point to this organ. Knowledge of the anatomy of the eye, combined with as much common sense as is exhibited in treatment of organs whose anatomy is compelled to be known, would relieve the term of specialism from ophthalmic practice as far as therapeutics and surgery go, the optico-medical and surgical condition excepted.

The sympathetic symptoms and inflammatory processes occurring in the eye in connection with brain-lesion, kidney-affection, syphilis, and rheumatism, are fully known to you. Not sufficient attention has been called to the presence of symptoms in and about the eye associated with affections of the uterus and its appendages.

Clinical observation reveals the proneness of the eye to exhibit alone, symptoms that refer to disease of another organ or set of organs, these diseases not being suspected or symptoms existing to point to them; while, on the other hand, this organ or set of organs being known to be at fault by prominent symptoms, the eye is free from any connection either by sympathetic symptoms or diseased condition, or, if affected in either way, is less prominently so.

To illustrate: in morbus Brightii, more cases will be referred to the practitioner of medicine by the ophthalmologist, which come to him with eye-trouble, due to changes in nerve and retina, from morbus Brightii, than he will find eye-symptoms in cases known to have kidney-affection and sent to him by the practitioner of medicine for additional evidence to be found in the eye. The same may be said of diabetes. Even syphilis manifests itself in this way, and cases of choked disk due to intracranial causes apply for eye-treatment more frequently than one finds choked disk in connection with known brain-lesion. So also with rheumatism. I desire to add the capability of the eye alone, or parts about it, presenting symptoms associated with diseases affecting the uterus and its appendages.

Here let me state that the normal-tissued, perfect-sighted (emmetropic) eye is more free from disease and more readily cured than the abnormal-tissued, imperfect-sighted (ametropic) eye; and this holds for reflex symptoms as well as when the organ alone is at fault or the two conditions combined; the percentage of emmetropic eyes being so low makes the assertion more worthy of advocacy.

The following cases exhibit the practical bearing of my remarks, though I can give no connection between the two organs but the broad base of reflex action through the sympathetic system.

All these cases presented themselves at the Jefferson Medical College Hospital, and were observed and treated by Prof. J. M. Da Costa, of the medical clinic, Prof. Wallace and Dr. Getchell, of the gynæcological clinic, Prof. Wm. Thomson and myself, of the ophthalmic clinic.

I am indebted to Dr. J. W. Barr for the notes stating the gynæcological condition and treatment.

Case I.—Miss C., æt. 18. Seen January 24, 1878. Sent by a physician for treatment of eyes; was led into the room, eyes protected from light; severe headache for long time, unable to work on account of inability to use eyes; worse at menstrual period; hysterical at times. Found photophobia, blepharo-spasm, lachrymation affecting both eyes, hyperæsthesia over infra- and supra-orbital region both sides and anterior fontanel, great pain on pressure; in fact, the same was general over the whole body. Hearing was modified: right ear, watch at 2 inches, left ear at 8 inches.

Vision, on account of great irritation from light, was R. E. V $= \frac{10}{C}$,

L. E. V $= \frac{15}{C}$.

Field of vision at two feet—

R. E., 8 inches circular;
L. E., 6 " "

From the severity of the symptoms, I was led to think that the nerve and retina were implicated, perhaps with meningitis. The ophthalmoscopic examination was difficult at first visit, but revealed hypermetropia, optic nerve slightly red, but no change in retina. It was considered an eye-case: ordered leeches to the temples, iodide of potassium, and hydrarg. bichlor.

January 27.—Symptoms better; R. E. V $= \frac{20}{LXX}$, L. E. V $= \frac{20}{LXX}$; hyperæsthesia still present.

February 2.—R. E. V $= \frac{20}{XL}$,

L. E. V $= \frac{20}{XL}$; gave strychnia $\frac{1}{20}$ gr. t. d.

February 28.—Slight general improvement.

March 10.—Not so well.

March 12.—Atropia for blepharo-spasm.

March 24.—Blepharo-spasm still present; less photophobia.

April 8.—Continues the same; gave bromide of potassium.

April 24.—Field of vision at two feet—

R. E., 14½ inches circular;
L. E., 10 " "

May 6.—R. E. V $= \frac{20}{XL} + 1.d = \frac{20}{XX}$;

L. E. V $= \frac{20}{XL} + 1.25d = \frac{20}{XX}$.

The idea of nerve- and retina-trouble was given up early in the case, and, though perfect sight was obtained, all the other symptoms remained.

July 7.—Field of vision still limited; other symptoms about the same; consulted medical department.

July 11.—Sent to gynæcological department,—the notes are presented,—with final relief of eye-symptoms and general improvement of health.

I have heard from this patient recently, and she considers herself well.

Case I.—Gynæcological notes, with treatment. Seen March, 1879. Headache; dyspeptic; menstruated at 15 years, recurring at intervals of one to three months, always scanty and pale, lasting one day. Hysterical spasms at 17 years of age, continued ever since. Not menstruated for two months; occasionally vomited blood. Leucorrhœa; conical os uteri; intense hyperæsthesia of genitals and over abdomen. Vaginitis. Treatment: application of solution of nitrate of silver twice weekly; warm injections twice daily; also leeched. Internally, iron.

Case II.—Miss M., æt. 18. Seen November 2, 1879. Sent from medical clinic for examination of eye-ground and treatment of eye-trouble, which was very severe, she having been treated for epileptoidal attacks, which still continued, with hysterical manifestations in addition. The eye-symptoms and facts about the eye appeared identical with those in Case I., and need no repetition.

R. E. V $= \frac{3}{C}$; L. E. V $= \frac{2}{C}$.

Field of vision at two feet—

R. E., 4 inches by 8 inches;
L. E., 5½ inches by 5 inches.

She remained in hospital for six weeks, receiving the same plan of treatment as Case I. Full vision was obtained, but limitation of field of vision and the other symptoms remained about the same; hysteria and epileptoidal attacks are prevalent. She was referred to the gynæcological department, who treated the condition found and reported in these notes; eye-symptoms were relieved, and general health improved.

Seen February 9, 1881.—No epileptoidal attacks for four months. Gave her correction for her optical defect, having compound hypermetropic astigmatism for both eyes; has no eye-trouble.

Seen March 1, 1881.—One epileptoidal attack, lasting a few minutes, since last seen; otherwise well, and is gaining her livelihood.

Case II.—Gynæcological notes and treatment. Constant headache; pain over left breast and down spine and in lumbo-sacral and inguinal region. Appetite poor; troubled much with flatulency and indigestion. Constant diarrhœa; painful micturition; eruption (acne) over face and chest. Spasm (epileptoidal) frequently. Menses irregular, too frequent, and lasting eight days each period.

Endometritis both cervical and corporeal. Leucorrhœa intense. Conical os uteri.

Treatment: application of Monsel's solution to whole of endometrium twice weekly; warm injections twice daily. Internally, general tonics. The notes do not state, but later Dr. Getchell amputated the os uteri. Case discharged well.

Case III.—Miss —, æt. 32, said to be unmarried, presumed childless. Seen November 14, 1880. Gave history of severe fall on head six years ago; has rheumatism, eruptions on skin, hair coming out for some time. Presented all the symptoms as to the eye and about it as Cases I. and II., only more severe —having existed for the last six weeks. Atropia gave no relief for blepharo-spasm; vision reduced; has hypermetropia, field limited. Gave same treatment for one week. Sent to gynæcological clinic; their notes are presented.

January 28, 1881.—Eye-symptoms almost entirely disappeared; convalescing from treatment; left hospital few days after, not seen since till March 3, 1881. General health better; bears light with colored glass well; less sensitiveness over affected parts. With correction for optical defect, $V = \frac{20}{XX}$; without, $\frac{20}{C}$, due to compound hypermetropic astigmatism. The symptoms have disappeared more slowly than in other cases, but were far more marked, as the uterine conditions were found to be also.

Case III.—Gynæcological notes and treatment. Menstruated at 12 years; menses always irregular, both as to time and quantity. Always complained of headache, and nervous generally. Appetite variable. Pain in lumbo-sacral region and down thighs. Pain over region of womb. Cervix slightly lacerated, result of labor at 21 years. Perineum lacerated extensively. Endometritis both in body and neck. Operated upon by Dr. Getchell in hospital, January 15, 1881, for laceration of perineum. Result, a good perineum, and all symptoms of disorder gradually disappearing. Is well.

No inflammatory processes existed in the eyes of these patients, though if they had existed the same principle would have held, making the cases more complicated, requiring gynæcological and ophthalmic treatment, and no positive relief would have ensued till the uterine disorders were relieved, doing away with the reflex symptoms and enabling the eye-symptoms proper to be handled by themselves. I seek, however, to point out reflex symptoms in and about the eye associated with disease of the uterus or its appendages. The eye-symptoms are not numerous; confined to photophobia, lachrymation, blepharo-spasm, decrease of vision, reduction of field of vision, hyperæsthesia of the infra-orbital and supra-orbital region, region of seventh nerve on face, especially over the exit of these nerves on the face, great sensitiveness over anterior fontanel on pressure. All had hysterical manifestations, and one epileptoidal attack. All these symptoms, separately or conjointly, can occur in diseases of the eye, except hysteria and epilepsy; but in these cases there was no eye-disease, no corneal trouble, no vitreous opacity, no retinitis, no neuritis, the hypermetropia present was not enough to account for all, and its correction gave no benefit except to acuity of vision; atropia did not prevent the blepharo-spasm.

Hypermetropia was present in all the cases, showing that ametropic eyes are more liable to symptoms than emmetropic eyes. Though it could no doubt exist in such eyes, myopic eyes have not been seen by me to present the same symptoms.

The first case was treated for eye-disease with no relief, and I was slow to give up the point; the second case was not benefited by a shorter course of treatment of eye-disease; in the third case I began at the other end of the dilemma, and not only eye-symptoms were relieved, but a more serious difficulty arrested and general relief obtained.

These eyes presented no primary lesion, no secondary disease, only reflex symptoms due to nothing but disease affecting the uterus or its appendages. It might be proper to classify such symptoms under the head of hysteria limited in its manifestations to parts in and about the eye. Such cases are not eye-cases. You may remember such cases in your practice, you may meet them hereafter: exclude eye-disease, and seek for the cause where it belongs.

219 South Seventeenth Street.

JABORANDI IN GLAUCOMA.

BY P. D. KEYSER, M.D.,

Surgeon, Wills Eye Hospital, Philadelphia.

OCTOBER 8, 1880, Mr. L., æt. 50, called to consult me in relation to a dimness in his vision that had been coming on for some time.

On examination, I found the lens of the right eye cataractous, and some posterior synechiæ,—which he reports has been so for fifteen years,—while his left eye has remained good all the time up to lately. He had, however, been suffering at times with slight shoots

of pain in the eye and a mist before it, which was thicker at times. He had noticed rainbows and great rays around the flame of the street-lamps, and, at times, in those in a room, especially if the room was very warm. He felt better in the cold air; in a close warm room he could not see. The past few days the cloudiness before the eyes had become more or less permanent.

The vision of the left eye was $\frac{15}{C}$, that of the right was light and passing objects.

He says that he has always been a little near-sighted, for which concave glasses have been worn.

Tension of the left ball was +2.

The field of vision was somewhat reduced in the inner and upper part.

Ophthalmoscopic Examination. — Media clear; optic disk slightly cupped; central vessels very full, but no pulsating artery.

The symptoms of glaucoma being present, I told him the nature of the trouble, and suggested the necessity of operative influence; but, not liking my suggestions, he left, to return the next day more anxious than before about himself, as his vision was more clouded than ever.

On examination now, the fundus of the eye could not be defined, on account of a brown cloud which appeared to be in front of the pupil. By careful illumination, a deep-brown infiltration could be seen in the centre of the cornea over the pupillary region, while the periphery was clear, through which the bluish-gray iris could be plainly perceived.

The tension of the ball had increased to +3.

I now urged the operation, but under no condition would he as yet consent thereto. I then determined to use eserine, but on a second reflection the idea came to me to try the action of jaborandi in its great power on the sudorific and salivary glands in the effect of elimination, knowing that considerable success had been attained by its use in affections of the vitreous, choroid, and detachment of the retina, and that its alkaloid, pilocarpin, locally, had somewhat the effect of eserine. I ordered him to take a teaspoonful (sixty minims) of the fluid extract at bedtime for three nights in succession, after which to see me.

He returned as I requested, and I found the eye very much improved. The tension was reduced to +1; the cornea was perfectly clear, the brown infiltration having entirely disappeared. The jaborandi had caused very profuse sweating, lasting for two full hours every time it was taken, and the salivary flow was very copious. Vision had increased to $\frac{20}{LXX}$. The dimness had passed away, which was naturally to be expected after the reduction of the increased tension and the disappearance of the brown cloud from the cornea.

I still suggested the operation, but no persuasion could get him to consent thereto, he being then satisfied with the improvement.

This is the second case of a brown infiltration in the cornea in glaucoma that I have seen, both of which were absorbed on the reduction of the tension. The first case I reported in the *Philadelphia Medical and Surgical Reporter*, July 18, 1874. Iridectomy was then performed, and complete absorption did not take place until twenty days after the operation. In the above-mentioned case of Mr. L. he was only three days on the use of the jaborandi.

In looking through the literature upon glaucoma, I do not find any mention of this pigmented infiltration in the cornea. Von Graefe first described a sclerous infiltration and a circumscribed rectangular ribbon-form opacity. Shiess-Gemuseus called attention to a uniform cloudiness spreading over the whole of the cornea without any change in the epithelium, as is seen in diffused and interstitial keratitis.

October 19, 1880, I was sent for to see Mrs. E., æt. 55, who was not able to leave her room, having been confined to the house for several weeks from an attack of rheumatism. She had been a sufferer, more or less, for years, from rheumatic gout. She was complaining of great pain in and around the eyes, with considerable inflammation in the left one, when I was sent for.

On examination, I found the tension of both balls increased to +3. In the left eye there was considerable pericorneal injection. The pupils were not dilated more than normal. She remarked that at times she had had great flashing of light and falling stars in the eyes, and sometimes rainbows around the lights, and even sharp shooting pains up in the head from the eyes. These premonitory symptoms of glaucoma, however, did not remain long, passing away and leaving the eyes in their former good condition.

The ophthalmoscopic examination showed the media clear, and that there was no cupping of the optic disks nor pulsating artery. She had never had the same feeling of pain and fulness in the eyes as she then had, which had been continuously for three or four days and nights, preventing sleep.

The success of the jaborandi in the previous case recurring to my mind, it suggested the trial of it again, and a teaspoonful of the fluid extract was given that night. The next day I found that she had had a very profuse sweat, with great flow of saliva, for nearly three hours, after which she slept until seven o'clock in the morning. The pain had all passed away, and the tension was reduced to about +1.

She complained of the taste of the jaborandi so much that the next night a hypodermic injection of one-eighth of a grain of nitrate of pilocarpin in solution was substituted, with the happy effect that the next day

all pain and increased tension of the balls were gone.

December 19, 1880, I was called to see an old gentleman in West Philadelphia, who had been blind for some years, but who was then suffering with great pain in the eyes. I found him blind from absolute glaucoma, both eyes. At times he had had attacks of severe pain, but the intervals had become shorter and the pain more exquisite, and for the past few days it was almost unbearable. To relieve him completely from pain, enucleation was advised, which advice was not accepted at that time: so I ordered him to take the fluid extract of jaborandi that night, and prepare himself for a good sweating and salivation. The next morning I found that he had rested very comfortably after the action of the jaborandi had passed away, and was then much relieved from pain.

It is well known that the premonitory attacks of glaucoma do at times pass away spontaneously, more especially after sleep; also that eserine, the active principle of the physostigma (Calabar) bean, used as a collyrium, has the power of relieving for a time these symptoms. In the first instance, as well as in sleep, the natural relaxation that takes place, with the consequent reduction in the intraocular tension, permitting the proper flow of the stagnated or choked blood from the eye, removes the attacks, while the myotic action of the eserine, contracting the pupil as well as constricting the vascular system of the eye, has the same effect of relieving the tension and diminishing the secretion. Pilocarpin, the active principle of the jaborandi, has the same myotic action on the eye that eserine has, but it does not appear to be strong enough alone in its action to relieve the glaucomatous symptoms as promptly.

Now, if thorough relaxation is one of the necessary things in these cases as well as myosis, the jaborandi internally will naturally be one of the effectual remedies to relieve the tension of the system, and therewith the increased firmness of the eyeball, and thus permit the regular circulation to take place for the time being, thereby removing the symptoms and attacks of glaucoma; but, like eserine, it can only be temporary in its action, and cannot effect a permanent cure. The salts of eserine and pilocarpin are somewhat expensive for the patient, and not always readily to be had at the different druggists', while the fluid extract of jaborandi is now so frequently used that it is to be found at a reasonable price in almost every apothecary's shop in large and small towns.

It is very remarkable that of the eyes lost from disease (not injury) one per cent. is found to be caused by glaucoma, very many of which, as noticed by ophthalmologists, are permitted to go blind for want of knowledge in the physician consulted, to distinguish the premonitory symptoms of this most important and dangerous disease of the eye,—the old story of neuralgia in the eye and head, with occasional dimness of vision, for months or years past, for which quinine, narcotics, etc., *in quantum infinitum aliter ad nauseam*, have been taken, until, finally, the sight is entirely lost, either gradually passing away or by a stormy attack of inflammation.

It is not to be expected, however, that the general practitioner can be so thoroughly learned in ophthalmology as to be able to diagnose correctly all the different diseases of the eye, and especially to perceive the gravity of a glaucomatous affection. It seems natural that the extreme violence of the circumorbital pain and the hemicrania, with but little if any injection or special outward appearances of inflammation, would direct the attention of the physician to neuralgia. But so much has been written in all the medical journals upon the subject of glaucoma during the past ten to twelve years, describing all the peculiar symptoms, with the dangers attending them, that one would suppose the whole profession would be on the alert to notice and diagnose this disease, as well as ready to avert its consequent blindness, knowing full well that the most brilliant triumph in ophthalmology has been gained in the treatment of this affection of the eye.

It is not in all cases that the premonitory symptoms of neuralgic pain—rainbows and flashes of light, etc.—are present, but with a few there are really no symptoms to attract one's attention except a progressive loss of sight. This naturally would mislead the physician not versed in the use of the ophthalmoscope as well as the regulations of the tension of the eyeball; but by careful examination of the field of vision some light may be thrown upon the case, for in such cases a reduction of the field in the upper and inward part is marked, which progresses until the power of vision is limited to directly outward on

the temporal side, and finally is lost altogether.

Eserine and pilocarpin have been found the most efficient remedies as yet to temporarily relieve the painful symptoms of glaucoma until operative influence — the only reliable means of giving permanent relief—is resorted to; but, as before mentioned, these are too expensive and too little used to be found in the stock of drugs of a country practitioner as well as in all the drug-stores of our cities, while the fluid extract of jaborandi is a remedy of frequent use, and inexpensive; so that in every case where suffering from an attack of circumorbital neuralgia with dimness of vision and increased tension of the eyeballs is found it would be well to try it in full doses, and if on the next day or two there be any reduction in the tension, remission of pain, with somewhat clearer vision, it should be the duty of the physician to have the patient consult an ophthalmologist at once for careful examination and treatment, if the sight is to be saved.

1630 Arch Street.

NOTES OF HOSPITAL PRACTICE.

UNIVERSITY HOSPITAL.

CLINIC OF DR. LOUIS A. DUHRING, PROFESSOR OF DISEASES OF THE SKIN.

Reported by Henry Wile.

ACUTE VESICULAR AND PUSTULAR DERMATITIS.

CASE I.—The patient before us is a woman about 30 years of age, and exhibits, as you see, an acute inflammation of the skin. The disease seems to be confined to the left forearm, and is of a marked type, being characterized by pustules and vesico-pustules, varying in size from a pin-head to a split pea, scattered over the surface, the whole forming a diffuse patch over the flexor and extensor surfaces of the forearm. Some of the pustules have run together, forming flat pustular areas; others have ruptured, and have formed crusts. You will notice that there is marked œdema of the forearm, and, coming down upon the backs of the fingers we see altogether about a half-dozen disseminated pustules.

On questioning the patient, we find that the disease is of one year's duration,—that is, the patient has undergone five distinct attacks, this being the fifth. She has had two attacks on the face, one on the right forearm, and one on the left forearm, where the disease is at present located. The patient states that the disease in each attack had always undergone the same development, being characterized by both general and local symptoms. After a high fever the disease manifests itself locally, first by itching, then by pain and a sense of burning, and, finally, by the appearance of red spots, vesicles, pustules, and blebs. The first symptom of the present attack appeared last Saturday (six days ago); thus it has taken nearly a week for the disease to develop into its present condition.

It is very important to get the history of this disease, for without it a positive diagnosis would be difficult, because there are several skin affections which resemble it in external appearances but differ in history and mode of development. The disease, of course, closely resembles eczema, but differs from it in several particulars.

The diagnosis is that of a vesicular and pustular dermatitis of an obscure nature. The treatment, therefore, may be that of any simple inflammation of the skin. We shall give at first a lotion, which is to be followed by an ointment. The following is advised for the first three days:

℞ Ext. grindeliæ robustæ fld., f℥j;
Aquæ, f℥viij.

Sig.—Apply as a lotion three times a day.

After the second or third day we shall order the oxide of zinc ointment to be used.

TINEA FAVOSA.

Case II.—A boy 18 years of age, with tinea favosa, the disease occupying a greater portion of the scalp. He states that he has had it since he was nine years old, and is positive that he contracted the same by "lending his pocket-comb to another little boy who had the same disease on the head." After recognizing the disease, we are able, in most cases, to give the history of its development better than the patient himself.

It begins usually in small areas by the development of small, pin-head-sized, yellow crusts, which form slowly. These crusts are situated around the hair-follicles, and they possess a characteristic sulphur-yellow color; they attain the size of a split pea, are decidedly cup-shaped, and,

when they coalesce, form large patches, which, not being removed, may become several lines thick. By separating the hair of the scalp we notice the peculiar yellow crusts, some confluent, others discrete. During the development of the disease the hair becomes exceedingly dry and brittle. In this case we also note several partly bald patches upon the scalp.

This disease may attack any part of the body, but its favorite seat is the scalp. It is caused by the presence of a vegetable parasite known as *Achorion Schönleinii*, which was discovered by Schönlein, of Berlin, in 1839. The crusts are made up almost entirely of parasitic matter, together with epithelial scales; hence they are very different from the crusts of eczema, with which disease tinea favosa may be confounded.

The disease is contagious, but it does not thrive equally upon all individuals, which is shown by the fact that physicians continually handling cases rarely, if ever, acquire it. It has a characteristic, peculiar, mousy odor, which often alone enables us to make a positive diagnosis. The disease is very rare in private practice, and seldom, if ever, occurs on stout, healthy individuals. It is a disease almost entirely confined to the lower classes, and is mostly found upon the ill-nourished and upon those whose condition of general health is poor.

It is a known fact that the disease may be readily contracted from the lower animals, especially from cats. The following incident may serve as an illustration. A gentleman, while out walking one evening, picked up a little kitten and carried the creature a few paces to his home. The next morning he noticed some crusts on its head, and, fearing something wrong, he destroyed the cat. Ten days later he came to me with two or three small crusts upon the backs of his fingers, and I recognized the disease to be tinea favosa, and, by questioning, gained the above history. I may add, by the way, that it required three months for him to be cured, and I may also state that two servants in his household likewise contracted the disease, also upon the hands, by handling the cat.

The disease is thoroughly curable, yet the prognosis should always be guarded, as some cases get well easily, while in others the disease proves to be very obstinate. Three remedies are necessary,—extreme cleanliness, depilation, and parasiticides. There are a number of parasiticides, any of which may be used. When the virtues of one seem to give out, another should be substituted. The hair of the scalp should first be cut short, and then sapo viridis, with hot water, applied to remove the crusts. The application should be made night and morning until the crusts are removed. In the intervals between the applications cosmoline may be rubbed in to aid in softening the crusts.

After the crusts are removed the hairs should be extracted with forceps. After this operation some parasiticidal preparation—which is the remedy to be relied upon—should be well rubbed in. The following lotions are recommended:

℞ Sodii hyposulphit., ℥j;
Aquæ, f℥j.

Or,

℞ Hydrargyri chloridi corros., gr. j;
Aquæ, f℥j.

Either of these lotions should be freely used, and allowed to remain on for half an hour.

Chrysophanic acid, in the strength of gr. xv–xxx to ℥j, is highly recommended; but it should be used with caution, lest a violent dermatitis be set up, not only of the part treated, but upon the adjoining healthy skin. In a case such as the present, where the disease is of long standing, and extensive, months will be required to effect a cure.

TINEA VERSICOLOR.

We have here, in the case of this young man, another parasitic disease, which is known as tinea versicolor. It is typical in form and in distribution. It is caused by the presence and development of a vegetable parasite called Microsporon Furfur, which gives evidence of its presence by the formation of pin-head, split-pea, and larger-sized patches, of a faint, dirty-yellowish color. These may be discrete or confluent, often covering large areas. The disease in this case is located on the back of the neck, on the shoulders, even extending down on the arm, and on the chest and back. The patches have a smooth appearance and feeling, but, nevertheless, show slight desquamation. The scales are very fine and mealy, being composed of epithelial cells thoroughly filled with the fungus.

The disease yields completely to treatment. The patient will be directed to take a bath daily, using sapo viridis freely, and then to apply a parasiticide to the affected part twice a day. We shall order the same lotion of hyposulphite of sodium as in the case of tinea favosa. A few weeks will probably suffice to cure the disease. The treatment should be continued for several weeks after all signs of the lesions have disappeared.

ECZEMA VESICULOSUM OF THE HANDS.

The patient is a young man who has a vesicular eruption on the back of his hands and on his fingers. The diagnosis lies between scabies and eczema vesiculosum.

The affection here consists of vesicles, pustules, excoriations, and crusts, with but little itching, and with no disposition to spread. The patient says that he has had the disease for one month. It cannot, therefore, be scabies, for in that time the disease would have increased extensively. The disease is eczema vesiculosum. The following ointment will be prescribed:

℞ Hydrargyri chlor. mitis, ℥ss;
Ungt. zinci oxidi benz., ℥j.
Sig.—Apply twice daily.

TRANSLATIONS.

VEGETABLE ASTRINGENTS.—In a lecture on this subject before the Hygienic Society, Dr. Lewin, of Berlin (*Deutsche Med. Wochens.*, 1881, p. 202), says that if there is one therapeutic principle which has seemed firmly established it has been the influence of tannic acid and the substances composing it upon the animal tissues. Dead tissues are known to be hardened and toughened under its influence, and living muscle and skin are believed to undergo similar changes. Reasoning from these facts, it has seemed unquestionable that a similar effect is produced on the vascular walls, so that diminished secretion as well as the cessation of parenchymatous bleeding, with contraction of the blood-vessels, is produced by its influence. Recent researches, however, go to contradict this long-cherished theory. By bringing a solution of tannin in contact with the mesentery of the frog, Rosenstein succeeded in developing—not contraction, as might have been expected, but dilatation. For this reason he is inclined to remove tannin from the class of astringents.

This discovery of Rosenstein's, together with the paucity of facts concerning the action of tannin to be found in the text-books, and the statement therein given that the influence of tannin is a purely local one, led Lewin to enter anew into the examination of the subject. The conclusions of his researches are given in this lecture, as follows:

Tannin coagulates albumen and albuminous substances. The albuminate of tannin thus formed is soluble in an excess of albumen, in lactic acid, in carbonic acid, and in the caustic alkalies. Tannin loses the peculiarity of causing coagulation if it is made slightly alkaline. Pepsin and peptones in solution are precipitated by tannin, but these precipitates are soluble in the hydrochloric acid of the stomach. Thus it is that, as has already been proved, artificial digestion of albumen goes on in a normal manner under the influence of tannin, that no hinderance is offered to the formation of peptones, and that the pepsin present is not precipitated on account of the hydrochloric acid present. It is of course understood that tannin only precipitates the albumen of the blood when it is in sufficient quantity to give an acid reaction to the fluid: the albuminate of tannin thus formed is dissolved again in an excess of alkaline blood.

The possibility of the absorption of tannin is thus explained. Small quantities of tannin are taken up into the lymphatic circulation with the food, and are sent into the blood-circulation as alkaline tannates. Dr. Lewin has succeeded in showing that the tannin thus absorbed is not all metamorphosed, some remaining and being discharged in the urine as tannin. It thus appears that tannin may reach the various parts of the body still preserving its therapeutic qualities. The urinary secretion is diminished under the influence of tannin, and Lewald has shown by quantitative examination that in Bright's disease the quantity of albumen in the urine markedly decreases under the influence of the drug. The widening of the capillaries of the frog's mesentery under the influence of tannin is explained by the occurrence of stasis in the capillaries. The directly-applied tannic acid solution diffuses into the capillaries, causes coagulation there, and, as a result of this, the vessels lying

beyond the affected capillaries experience dilatation from stasis.

As a practical result of his investigations, Dr. Lewin recommends a new form of administering tannin. Experience shows that tannin solution and, still more, powdered tannin not infrequently fail in the desired effect; secondary influences are exerted, which show themselves in irritation of the gastro-intestinal canal, pressure in the epigastrium, loss of appetite, coated tongue, diarrhœa, etc. These evil effects are obviated if the tannin is given in the form of an albuminate. If to a one to two per cent. solution of tannin a filtered solution of an egg in one hundred centimetres of water is added, and the mixture well shaken, an opalescent, light, milky-colored fluid results which has a much less astringent taste than the corresponding tannic acid solution. It may be prescribed thus:

℞ Sol. acid. tannic. (2 per cent.), gr. cl;
Add, shaking,
Sol. albumin. ovi un., gr. c.—M.

This solution gives good results even when much diluted, and may be used in very young children.

Diagnosis between Senile General Paralysis and Senility.—The distinction between general paralysis and apparently similar cases of senile feeble-mindedness is not always easy to make, and the diagnosis cannot be based upon the patient's age. True paralysis may occur at an advanced age, while senility may come on long before the individual has neared the end of life. Drs. Seppi and Riva (*Deutsche Med. Wochens.*, 1881, p. 207, from an Italian source) suggest the following points. 1. The most prominent anatomical characteristics of paralysis are aneurism of the cerebral arteries, hypertrophy of the interstitial connective tissue of the brain, fatty and pigmentary infiltration of the ganglion-cells, and finally diffuse atheroma. The chief distinctive clinical peculiarities are atheromatous pulse and slight severity of the apoplectiform attacks. Lack of tendency to fever, and the absence of those periodic variations of temperature characteristic of the other form of brain-trouble, as well as the progressive loss of the mental faculties, in connection with vague delirium and invalidism, and without any tendency to the *délire des grandeurs*, are all characteristic.

Scrofula and Tuberculosis.—At a recent meeting of the Société des Hôpitaux (*La France Méd.*, 1881, p. 368) Dr. Villemin remarked that formerly the word "scrofula" was employed solely to designate ganglionic tumefactions of the neck, suppurating ganglions, etc. Later, all ganglionic alterations were included under this category, and then superficial changes in the skin and mucous membranes. It may be the case, after a while, that this term may include and serve to designate all those alterations at present termed syphilitic and rachitic, including also "morve" and farcy. Scrofula must, then, be divided—like syphilis—into primitive, secondary, tertiary, quaternary. When it is perceived that we have gone too far, then syphilis and "morve" will be eliminated. M. Villemin cannot admit that tuberculosis and scrofula are one and the same, that tuberculosis is nothing more than a manifestation of scrofula. There are numbers of tuberculous persons who have never presented a sign of scrofula. In fact, the tubercular lesions no more belong to scrofula than do the manifestations of syphilis, which were formerly supposed to be connected with scrofula.

The characteristics of a disease are not more in the lesion than in the cause. The etiological element is the most important. Has not M. Kiener shown that cold abscesses, alterations in the synovials and the bones, are nothing more than tubercular affections? Instead of asserting that patients dying tuberculous were scrofulous previously, why not assert that, being tuberculous, they have succumbed to an extension of the affection? M. Villemin does not believe in the existence of scrofula as a morbid entity. There are only scrofulous affections, and there is scrofulosis, which is only a morbid translation of the lymphatic temperament. He did not know that the subjects of scrofulosis were more apt than other persons to become tuberculous. Scrofulosis, however, may so modify the vital tissues as to render them more apt to become tuberculous. Such is the opinion expressed by M. Bouchardat in his recent lectures. It is therefore erroneous to include many of the manifestations of tuberculosis under the head of scrofula.

Osteotomy for Rachitic Curvations of the Bones.—A memoir on this subject by Dr. Bœkel, analyzed in *La France*

Médicale (1881, p. 411), gives an account of the method of operation in these cases.

The time of operation depends upon the condition of the patient. It may be carried out when the manual osteoclastic procedure has failed: the latter should in every case be first attempted. The operation should not be performed until the cause which has softened, deformed, and again hardened the bones has been removed. The operation of osteotomy, according to M. Bœkel, should be subcutaneous, sub-periosteal, and total; it may be linear or wedge-shaped. It is performed as follows. 1. Incision of the soft parts as small as is possible, and simply sufficient to permit the play of the scissors; this incision should be vertical, and should go straight down to the bone. 2. The periosteum should be stripped with the aid of the handle of the bistoury or by means of a special instrument. 3. The bone should be divided at the point of maximum curvation. The section should be total: if partial, troublesome suppuration or other difficulty is apt to be caused by the necrosis of splinters of bone broken off in straightening. 4. The operation of straightening then follows. 5. Then finally comes the dressing, which should be performed by the antiseptic method without immediate reunion.

The operation almost always results favorably. There is scarcely any reaction. Consolidation takes place, with rare exceptions, within four weeks, and is durable. Of one hundred and eighty-one cases operated upon by M. Bœkel, osteo-myelitis has never supervened, nor have any terminated fatally.

Aspidospermin—the Active Principle of Quebracho.—At a recent meeting of the Greifswald Medical Society (*Deutsche Med. Wochens.*, 1881, p. 208) Dr. Eulenburg read a paper on the active principles of a number of drugs which have recently come into vogue, and among them of the alkaloid aspidospermin extracted from quebracho bark. Gehe & Co., the well-known chemists, have made a citrate. It occurs as a yellowish-gray powder or in rhombic crystals, and, contrary to the statement made in Gehe's circular, is insoluble in water. It is soluble, however, in fifty parts of water to which four or five parts of nitric acid have been added. In cold (absolute) alcohol, ether, and glycerin the preparation is scarcely at all soluble. Boiling alcohol, however, dissolves one part to ten. The acidified watery solution shows a somewhat reddish color after long standing, but remains clear. Subcutaneous injections of .02–.04 centigramme in the rabbit failed to produce any marked symptoms. In frogs the aspidospermin caused primary respiratory paralysis.

Papayotin.—In the paper mentioned above, Dr. Eulenburg also spoke of the active principle of the *carica papaya*, a Brazilian fruit used in dyspepsia. Papayotin is extracted from the milky sap and also from the leaves. The preparation of papayotin examined by Eulenburg was insoluble not only in alcohol and ether, but also in hot and cold water and glycerin. Even on the addition of acid but a small proportion of the salt was soluble. Experiments made as to the digestive properties of papayotin were negative in their result. Albumen remained undissolved.

Hypodermic Administration of Iron.—Eulenburg, in the paper above alluded to, spoke also of the hypodermic administration of iron, the most convenient preparation of which for this purpose is, in his opinion, the pyrophosphate, with citrate of sodium,—a preparation to be recommended on account of the large proportion (26.6 per cent.) of iron which it contains. In watery solution 1–5 it may be used without local irritation. Within half an hour the urine shows iron.

Epithelioma of the Tongue followed by Secondary Deposits in the Heart.—Dr. Ch. Féré (Société Anatomique, *Le Progrès Médical*, 1881, p. 281) reports the case of a man of 64, whose tongue was removed for epithelioma. The disease recurred, and the patient finally died of exhaustion. At the autopsy the organs in general (except, of course, the tongue and neighboring ganglia) were found healthy. In the wall of the left ventricle, however, were three pea-sized nodules of a typical epithelioma.

Thymol in Ringworm.—Mr. Malcom Morris recommends the following:

℞ Thymol (vel Menthol), ʒss;
Chloroformi, ʒij;
Olei olivæ, ʒvj.—M.

To be painted or gently rubbed on the part.

The cash income of St. Bartholomew's Hospital for 1880 was three hundred and eighty-five thousand dollars.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, JUNE 18, 1881.

EDITORIAL.

PASSING ON THE OTHER SIDE OF THE WAY.

THE trial and acquittal of Lizzie Aaronson for infanticide has recently drawn attention very forcibly to a weak link in the chain of Philadelphia's charities. Brought to this city and deserted upon the eve of maternity by her seducer, she applied to several institutions for relief, notably to the City Hospital, to the Home Mission, Christian Association, etc. At the Board of Guardians' office she was required to make affidavit as to the name of her supposed husband, and, failing to do this, was refused admission to the Almshouse.

At no other place was relief found, until she was given shelter by a prostitute of the lower class, whose male paramour finally turned her out, when she dragged herself into a low lodging-house, and by pledging a ring secured a room for the night. The next morning, in the court below, the dead child was found by the police. Skilfully directed expert testimony, aided by sympathy on the part of lawyers and judges, succeeded in picking flaws and securing a verdict of acquittal, which in turn was followed by a shower of newspaper articles, mostly censuring the Guardians of the Poor and hospital authorities for their want of the common feelings of humanity. Very few, if any, editors seem to recognize the fact that a hospital must be managed upon business principles,—that it cannot afford relief beyond the means at its command, and that the cases must be rightly selected for admission. To put a lying-in woman in a general hospital is, of course, to expose her to a great risk of death, and is unjustifiable.

That there is at present excessive difficulty in getting patients into the city hospital we know from experience, and in the instance of Lizzie Aaronson the rules seem to have been applied with brutal indifference,—an indifference which we fear is shared by many persons in our midst whose position in society is far above that of the Almshouse officials.

It will, however, be well worth the sacrifice of one foundling if general attention is called to the whole subject. The abhorrence of unchastity is of course very commendable, but the peculiar development of it witnessed in this City of Brotherly Love is not so savory. After a good deal of experience, we have failed to find one fashionable saloon or even one religious parlor whose doors are shut against any young man of ability and social position because he is unchaste, even though his amours are not hidden; and every one who knows anything about the matter knows that men who have been notoriously loose in this respect continually contract brilliant marriages. Yet when a poor, deserted woman, whose sin perhaps has been almost forced upon her by circumstances, comes to the hour of her travail, she must needs lie in the streets, or, if she be fortunate, be taken into the city hospital, to be herded with those who are hopelessly deep in the mire of impurity, and to have all opportunity of rescue denied her. Most of our readers have heard of the Preston Retreat, an institution which receives married women only for confinement. Married women in our city prefer their own rooms, and so generally have comfortable homes that they are rarely willing to enter a charity. The result is that, so far as our knowledge or belief goes, no money devoted to benevolence accomplishes as little for the amount spent as does the foundation of the Preston Retreat. The managers of the Preston Retreat, however, are

not to be blamed for the restriction of their trust to married women, as the condition is imposed by the will of Mr. Preston. The managers of the Women's Hospital of this city have no such excuse: their charter binds them in no way; they are responsible for their own acts; and with cold inhumanity have they shut their doors against the most pitiable of all human beings.

Until, through the efforts of Dr. James W. White and others, some few years since, the State Hospital for Women was made an active reality, there was no hope in this city for a poor woman who had sinned only once, except to go down to the very depths of depravity, when the Magdalen Asylum would welcome her.

The State Hospital has throughout its course met with opposition from the class who shut the doors of other charities. We have seen a letter, signed by five or six prominent clergymen, protesting against the institution being placed in a certain respectable neighborhood, and asking that it be put in a well-known haunt of prostitutes, where the women would be placed under every temptation to plunge into a career of vice. It was a curious commentary upon this letter that the first applicant for relief was a Sunday-school scholar of one of these very gentlemen, who thought his church's atmosphere would be polluted by the hospital being within a few squares of it.

Some years since, puerperal fever broke out suddenly in the State Hospital for Women: two patients died. There were ten in the house awaiting confinement, two being in the very pangs of labor. It was necessary to do something at once. A carriage was secured, and the women taken to the Women's Hospital by the President of the State Hospital; but they were refused admission, although the offer to pay their board was made. Truly, the ways of the unforgiving are hard.

The State Hospital for Women has been conducted with the most rigid and successful economy; we see by the last report that the average cost per patient, exclusive of rent, was $3.50 per week; yet it cannot receive a third of the applicants. In the eight years since the opening of the institution, 1800 women have presented themselves, whilst only to about 500 has it been possible to afford shelter and relief; 1300 have had to be cast out, thrown into the whirlpool whose abyss is moral and physical death. Of those admitted to the hospital, it is said, nearly 90 per cent. have been permanently saved from a life of shame. Will our readers keep these facts before wealthy philanthropists?

ALCOHOL.—Every one who has made many microscopic examinations of objects and especially of solutions which have been exposed to the air is familiar with one characteristic of the saccharo-mycetes or sugar-fungi,—namely, their ubiquity. The yeast-fungus is always lying in wait to spring into active life when a suitable home is offered it. Under these circumstances it is not surprising that M. A. Müntz, a French chemist, has succeeded in detecting alcohol in rain-, sea-, and river-water, as well as in the general atmosphere and in rich soils. Sewage was found to be very rich in alcohol.

LEADING ARTICLES.

A PREDICTION VERIFIED.

EDITOR OF THE MEDICAL TIMES:

THE disease known as anthrax, *charbon, sang de rate, milzbrand*, etc., has been demonstrated by so many competent observers in different parts of the world (Davaine, Koch, Pasteur, Greenfield, and many others) to be due to the multiplication in the body of the affected animal of a minute vegetable organism, the *Bacillus anthracis*, that additional testimony will scarcely be deemed necessary to establish the truth of the proposition by those who are familiar with the evidence upon which

it rests, while for those who are not familiar with this evidence the simple facts which I have to relate will have but little weight, as it is only by such extended and carefully conducted experimental researches as have been made by the savants referred to that the exactions of science can be met. However, my single experiment has a special interest, as it shows that the truth stated at the outset of this communication rests upon a sufficiently solid foundation to justify a prediction by Burdon Sanderson of what would happen if a minute quantity of dried blood containing *B. anthracis*, which had been in his possession for seven years, should be introduced beneath the skin of a mouse.

I am indebted to Prof. J. Newell Martin, of Johns Hopkins University, for the specimen which has enabled me to make this experiment, and also for the privilege of reading Dr. Burdon Sanderson's letter accompanying it.

The only portion of this letter which it is necessary to quote is the following:

"I send you the material. I started from it the last experiments I made on this subject. It was then five years old, and consequently is now seven or eight. *I have no doubt that you will find that if worked up with salt solution and injected into a mouse, you will have the spleen after from twenty-four to thirty-six hours enlarged and infiltrated with Bacillus.*"

This prediction has been fully verified by the result of my experiment.

The material referred to was enclosed in a glass tube, and did not, I should judge, weigh more than the sixth part of a grain. As soon as I was able to obtain a living mouse, I added a little salt solution to this material, in accordance with the directions contained in Burdon Sanderson's letter, and injected a few minims of this beneath the skin of the little creature. The injection was made at 2 P.M., June 4. The mouse was alive at 10 A.M., June 5 (Sunday), but upon returning to my laboratory at 3.30 P.M. I found it dead, and upon making a post-mortem examination verified the presence of the bacillus in considerable abundance in the spleen. This bacillus resembles exactly the Bacillus of milzbrand as photographed by Koch (Beiträge zur Biologie der Pflanzen, Bd. ii., Heft 3), and corresponds with the descriptions given by those who have studied *Bacillus anthracis*.

I may say, in conclusion, that I have not before met with anything like it in the blood or in the spleen of the numerous animals (rabbits or rats) which have been the subjects of my experiments during the past two years (injections of saliva and of various septic fluids. See my special reports to the National Board of Health).

GEO. M. STERNBERG,
Surgeon U.S.A.

BALTIMORE, MD., June 5.

PROCEEDINGS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, FEBRUARY 24, 1881.

Dr. M. LONGSTRETH in the chair.

Report of a case of typhoid fever (?) *in a child æt. ten months.* By Dr. LONGSTRETH.

DR. LONGSTRETH said that he had been called upon to make the autopsy in this case, and regretted that the history furnished in connection with the specimens was necessarily so imperfect. He was induced to speak of the case as one of typhoid fever solely from the post-mortem evidences. The clinical history, furnished by the attending physician, Dr. Scott, was as follows. The child, female, light mulatto, æt. 10 months, nursed at the breast, taking no other nourishment, but was in the habit of drinking ordinary hydrant-water. She had been strong and well until the present symptoms set in. For two or three days previous to January 6, 1881, the mother had noticed that the child did not play or take the usual notice of things, and was weak, but did not regard her as very sick. On examination, the child was found pale, dull, and could be roused only by extra efforts, and immediately fell asleep again. There was no desire for food, tongue coated white, bowels obstinately constipated, requiring repeated doses of castor oil, and finally an enema, to produce their evacuation. The pulse was about normal in rate, but weak. The skin was dry, but did not give a sensation of heat to the hand. There had been no epistaxis, and the lungs were free from any abnormal physical signs. During the second week the physical signs remained as noted, except that now pain in the abdomen and diarrhœa occurred. The fecal discharges were of grass-green color. Appropriate remedies relieved the pain, and the diarrhœa was easily and promptly checked. The child progressively became weaker, and remained in the same somnolent condition. She was roused and proper and abundant nourishment was taken during the whole course of the illness. Death occurred in the early part of the third week from the commencement of the attack.

Post-mortem Examination, made twenty hours after death.—Rigor mortis firm. Posterior parts of the body discolored. Emaciation marked. The great cavities and their serous lining showed no abnormal conditions.

The right side of the heart was relaxed, and contained considerable fluid blood and soft clots extending into the great vessels connected with the auricle and ventricle. The left side was nearly empty, the left ventricle firmly contracted. The heart-muscle was pale, rather friable, but not fatty. The lungs showed considerable posterior congestion and a few small areas of collapse, but otherwise were normal. The bronchial tubes contained considerable frothy mucus, but the mucous membrane gave no evidence of any inflammatory change, though parts of the respiratory tube were of a reddish color.

The spleen was firm, a little swollen, pale externally and internally, of a dark-reddish hue; its pulp was moderately resistant, and did not exhibit the appearance so constantly seen in the typhoid fever spleen.

The kidneys were nearly typically normal in appearance; the only alteration was a very slight swelling, and an opacity of the cortical portion difficult to differentiate from the general paleness of all the organs.

The liver was pale, its edges very slightly rounded; on section, its tissue was anæmic and appeared homogeneous. The bile in the gall-bladder, moderate in amount, was pale green and mucus-like.

The stomach exhibited a slight swelling of its mucous membrane, and contained, floating in a small amount of fluid, some milk-curds.

The intestine, throughout its extent, exhibited marked alterations. Externally, while generally pale and slightly opaque, at parts reddish patches of coarse injection were seen; but the peritoneum was unchanged.

Its mucous membrane throughout, but more markedly in some parts than in others, showed a distinct but not severe catarrhal inflammatory condition. All the Peyer's patches were more distinct than normal, and, as the examination of them progressively approached the ileo-cœcal valve, they were found more elevated and prominent. The few lower patches were very marked in this state, and their surfaces were uneven, but to the naked eye there was no evident ulcerative destruction of the mucous membrane overlying them. The patches were of unusual length, considered proportionally to the relative size of the intestine. The solitary glands of the ileum, as well as of the colon, were enlarged and prominent, and the mucous membrane of the latter also showed catarrhal changes, but to a less degree than in the small intestine. The appendix vermiformis was swollen, thickened, and gave a feeling of firmness to the finger, but contained only fluid contents.

The mesenteric glands were large and swollen, especially the ileo-cœcal gland.

The contents of the gut throughout were pale yellowish and to a great extent fluid, but some firmer masses of a yellow color were present.

The bladder was empty. The generative organs were normal.

Microscopic Examination.—Portions of the intestine were placed in Müller's fluid overnight, to prevent alteration until sections could be made the following morning by freezing. The Peyer's patches at the time the sections were made showed a much greater prominence than when removed from the body. This change was apparently due to a reduction in the swelling of the surrounding mucous membrane, etc., from the escape of fluid.

The lymph-follicles, as now seen with the microscope on the table, are crowded with the small cell-elements, which at the peripheral portions are arranged in straight bands, while in the central parts the corpuscular elements are heaped together in a confused manner. In some of the follicles their centres are evidently undergoing softening, or at least the fibrillar tissue is less resistant and the unhardened tissue has given way. The prominence or projection of the patch is very great, and, as viewed with a lens of low power, is seen to exceed considerably the thickness of the surrounding intestinal wall. In one of the sections the mucous membrane overlying the follicle is seen to be removed, and the infiltrated follicular tissue is exposed, giving the appearance of a commencing ulcerative destruction.

From this brief note of the microscopic appearances presented by this specimen, it is evident that the conditions resemble those found in unquestionable cases of typhoid fever at certain stages of this disease.

Remarks.—As already remarked, in presenting these specimens to the Society, the clinical history is entirely defective in furnishing a proof, or even a hint, that this case was one of typhoid fever, and it is not claimed that the post-mortem evidence is decisive. However, since the knowledge of the symptoms of this disease occurring at this period of life is very meagre, and the autopsy records of the anatomical changes in the organs are so very few, we are possessed of very insufficient guides to lead us to determination of the nature of the alterations here found.

If the case during life had been attended with prolonged diarrhœa, the presence of this symptom might furnish us with the explanation of the enlargement of the lymph-follicles and the mesenteric glands. The rapid emaciation and the condition of the other organs besides the intestines are not inconsistent with the occurrence of a febrile disease, the presence of which, owing to the absence of a thermometric record, may have been overlooked. The reasons for suggesting the ty-

phoid nature of the disease have already been given.

Dr. TYSON thought the specimen, if not one of typhoid fever, was an anomalous one, in that the agminated glands were enlarged, although in a case of such short duration; for in *chronic* intestinal troubles such a condition of Peyer's patches, as well as of the solitary glands, is not unusual. He would ask Dr. Longstreth whether the surrounding hygienic conditions were such as to suggest any source of infection.

Dr. LONGSTRETH replied that the child was at the breast, but of course must have occasionally had water to drink, which might have been the vehicle of infection if such existed.

Dr. ESKRIDGE said that typhoid fever in the young ran a different course from the disease in the adult. According to his experience, it usually ran its course in two weeks, or less. In one patient under his care, where death resulted from hemorrhage from the bowels during convalescence, the fever had run its course in eleven days. Text-books did not sufficiently emphasize the difference of the symptoms and duration of the fever occurring at the two periods of life mentioned; although within the last two years Dr. Jacobi, of New York, in one of the leading medical journals of his city, had called especial attention to the frequency of typhoid fever in children. He stated that it is milder, that it runs its course more rapidly, that the temperature rises at the beginning and falls at the close more abruptly, that the fever takes on more of the type of remittent (for which it is often mistaken), when it occurs in children. The doctor of late had been much interested in collecting cases of typhoid fever in the adult with irregular temperature records, and related cases to illustrate.

Dr. O'HARA asked whether the other children who had died in this family had shown the same symptoms, at what intervals had the fatal cases occurred, and whether anything like a constant cause could be detected.

Dr. FORMAD inquired as to the possibility of syphilis.

Dr. LONGSTRETH, in reply to the last two speakers, said that, as he had merely made the post-mortem examination, and was unacquainted with the family, he was unable to say anything positively, but as far as syphilis went, the history and absence both of skin eruptions and signs of chronic wasting would indicate its probable absence.

Dr. FORMAD said, in explanation of his question, that the microscopic examination suggests a cirrhotic induration rather than ulceration; in fact, portions look as if the follicles were hypertrophied. Birsch-Hirschfeldt has stated that in congenital syphilis there is this increase of the connective-tissue elements in the lymphatic structures. The present specimen would seem to indicate such a condition, while the characteristic medullary infiltration of typhoid fever is absent.

Dr. NANCREDE related a case of a form of fever such as Dr. Eskridge had described, of which he had seen one case, and had heard from his colleague, Dr. M. J. Lewis, had been quite prevalent last summer. To him, such cases seemed merely what the Germans have described as abortive typhoid. As to the present specimen, he would like to ask if any member present knew the *normal anatomical* appearances presented by the small intestine of a child of eighteen months. *He* certainly did not, and before we discussed pathological alterations it would be well to have some knowledge of the normal conditions of the parts. It is certainly true that as age advances it becomes more and more difficult to demonstrate Peyer's patches in a state of health. Dr. Longstreth has said that these patches were not so prominent at the post-mortem as now, as the mucous membrane surrounding them was swollen and infiltrated. Their present prominence is due to the effused products having escaped while the tissues have become condensed by the reagent. May it not only be possible, but probable, that these glands are normally as prominent as in the present specimen in children of this age? *A priori*, as we know that they gradually disappear normally with advancing years, it is but fair to infer that, like the thymus and other glands, their appearance a short time after birth is far different from that to be found at but a comparatively slightly later period of life.

Dr. O'HARA asked whether Peyer's patches could not become enlarged from any other cause than typhoid fever.

Dr. TYSON said that experience thus far had shown no other cause to be efficient, although there is no reason why there might not be some other. In the present case the diarrhœa and acuteness of the attack precluded the idea of syphilis. As to the duration of typhoid fever in children, he thought that all authors agreed that it ran a much shorter course in children than in adults, rarely lasting in the former more than two weeks.

Dr. TYSON replied that he was unaware of any such.

Dr. LONGSTRETH asked Dr. Tyson if he was aware of any case of typhoid fever on record in an infant under one year of age.

Cystic tumor of the breast. Presented by Dr. LONGSTRETH for Dr. PACKARD.

Miss ——, æt. about 45, a well-nourished person, and always in enjoyment of good health, with the exception of some functional nervous disorders, perceived during the summer of 1880 a small lump at the upper and inner border of the left mammary gland.

She suffered no pain except after it was handled, but was alarmed by its steady increase in size. It was removed on January 25, 1881; it had reached the size of an Eng-

lish walnut, and proved to be a cyst. During the operation, notwithstanding careful manipulation, the wall gave way at one point, and a quantity of liquid like thin milk was discharged; unfortunately, none of the fluid could be collected for examination. The mammary gland seemed to be healthy, and was left entire.

A microscopic examination was made, the section being taken from the border of the cyst, including a portion of its wall and the adjacent glandular tissue. The cyst-wall was seen to be made up of condensed fibrous tissue, in which the remains of glandular structure were apparent. The near-lying acini or tubules were found slightly dilated and their epithelial lining stained more deeply, and the cells appeared enlarged or hyperplastic, as though from irritation of the adjacent cyst. The other portions of the gland seen in the section showed nothing abnormal.

Remarks.—It is unfortunate that none of the fluid could be collected for examination, but the exigencies of the operation prevented it, and at a later examination of the cyst no fluid was to be found in it. Attention was given to the intima of the cyst-wall, but nothing was discoverable in its structure that gave any evidence of the nature of the cavity or its contained fluid. It seemed probable, from the appearance of the fluid and the condition of the neighboring acini, that the cyst was to be classed as a retention cyst of the mammary gland from (unknown) obstruction of some of its distant tubules.

Dr. TYSON was inclined to consider that the tumor was a "retention cyst."

Cancer of stomach and liver. By Dr. E. T. BRUEN.

These specimens exhibit an encephaloid cancerous growth, embracing the entire anterior wall of the stomach. The largest masses of the new formation are distributed at the junction of the œsophagus with the stomach, although the œsophagus is not involved. The mucous membrane of the stomach is not ulcerated, but the masses are very large, and as felt through the anterior wall they conveyed the idea of a triple layer of figs,—that is, a well-flattened yet decidedly thick and bulky mass, fully four inches in breadth by seven vertically. The growth has caused considerable dilatation of the stomach, especially the cardiac extremity. Extending from the lesser curvature of the stomach can be found a chain of enlarged lymphatic glands running up under the fissure of the liver, between the right and left lobes. This chain of glands commences around the pancreas, but the structure of this gland is not involved.

Cancerous nodules are to be seen in the liver; the largest nodule, in the left lobe. In the pleura of the right side nodules are found which microscopic examination has shown to be cancerous.

I also exhibit a portion of the skull, with a developed nodule in the periosteum, of the size of a walnut.

These specimens were removed from the body of a man 40 years of age, with a good family record, without history of cancer or scrofula.

The sequence of the cancerous development is as follows. In June last, about five months prior to the date of his death, the tumor of the stomach developed. Six weeks before death, the tumor in the liver was diagnosticated; some three weeks before his death, the nodules in the pleura were discovered.

The clinical history is a recital of the usual symptoms of similar conditions. It is interesting to note that vomiting was never a symptom unless very inappropriate food was used; there was never vomiting of blood, but large amounts of gas were frequently passed per mouth and anus. There was no constipation. To explain this absence of frequently-expected symptoms, I would note that the pylorus was not involved; thus vomiting was not induced, because the contents of the stomach could readily pass into the intestine; and, as the liver was only involved in the later history of the case, intestinal digestion was not impaired.

Pain, however, was a prominent symptom, and the suffering was much increased by the developments in the pleura.

Another interesting symptom was a total paraplegia. The power of motion in the legs was abolished, and there was no control over the bladder or rectum. This paralysis appeared some four weeks before death. It fully developed itself in about one week, leading me to suspect that a similar change would be found in the membranes of the cord to that noticed in the pleura. At the autopsy the cord was examined in its entirety, and nothing abnormal could be detected. In fact, the cord has been cut into sections and is used to demonstrate the normal histology of that tissue to the class at the University of Pennsylvania.

A loud systolic bruit could be heard over the region of the aorta, audible just below the ensiform cartilage anteriorly, diminishing as the aorta passed downward. It was heard posteriorly over the dorsal spine quite distinctly. This bruit was not affected when the hand-and-knee position was assumed, or when an effort was made to draw the tumor downward into one or other iliac region, which could be partially accomplished. The persistence of murmur was probably owing to the constant pressure of this large mass on the aorta; and, owing to the fact that most of the growth affects the cardiac end of the stomach, it could not be dragged away from the vessel as one could drag a tumor in some other part of the stomach.

Yet, for all this, I felt I could exclude aneurism even in the early stages of the growth,

since aneurismal pressure-signs were absent, and there were no evidences of systemic conditions which predispose to disease of the arterial coats, such as syphilis, alcoholism, rheumatism, and the like; and these evidences I regard as of ultimate importance.

Finally, I would say that the movable character of the tumor above referred to, and the absence of symptoms of intestinal indigestion, were important evidences that the location of the primary tumor was in the stomach. I think you will agree that cancers of the anterior wall, since they grow backward and inward, are not necessarily more prominent to palpation during life than are tumors of the posterior wall of the stomach. This tumor seemed to be situated just beneath the skin, so superficial did it seem during life. But I have examined cases in which the tumors seemed equally superficial during life, yet autopsy revealed the location of the disease in the posterior wall.

Sections of the cerebral ganglia, with remarks on their anatomy and lesions. Presented by Dr. CHARLES K. MILLS.

The specimens exhibited, nine in number, were—(1) transverse and vertical sections; (2) longitudinal and vertical sections; and (3) horizontal sections of the ganglia. The preparations were not for microscopical study, but were for the purpose of illustrating some points in connection with the coarse examination of the brain, with the view of accurately localizing and recording lesions. The following is an abstract of the remarks made by Dr. Mills:

Although physicians seem lately to have awakened to the importance of carefully describing the limits of cortical lesions, they do not appear to be as fully alive to the equally important matter of definitely localizing lesions of the deep parts of the brain. By studying transverse, longitudinal, and horizontal sections of the cerebral hemispheres, one can soon obtain a clear idea of the size, shape, and normal appearances of the ganglia, and of the intervening and surrounding white matter. On the whole, perhaps, vertico-transverse sections will be the most available and lead to the least confusion in making post-mortem examinations. The profession has become familiar with the appearances presented by such sections from the plates in the works of Charcot, Ferrier, and others. The appearances of longitudinal and horizontal sections are not so well known. In the Annals of the Anatomical and Surgical Society of Brooklyn for January, 1880, and in *Brain* for July, 1880, Prof. J. C. Dalton, of New York, has published papers on the *corpus striatum*, from a study of which many useful points can be learned with reference to longitudinal and horizontal sections. I show you sections similar to those figured in these articles, and will quote his remarks on horizontal sections: "In horizontal sections of the brain, the size and form of the cerebral ganglia vary greatly according to the level at which the section is made. At the level of the corpus callosum only a little of the arched portion of the corpus striatum is exposed, and none of the lenticular nucleus is visible. Somewhat below this, at the level of the fornix, the arched portion of the corpus striatum disappears, but there is a large oval section of the head in front, and a small one of the surcingle behind. Lower still the lenticular nucleus comes into view, separated from the head of the corpus striatum by the distinctly marked anterior prolongation of the internal capsule. At the level of the anterior commissure the lenticular nucleus and the head of the corpus striatum begin to fuse with each other, owing to the partial disappearance of the internal capsule between them. At this level the head of the corpus striatum is much reduced in size and altered in shape. The lenticular nucleus occupies a position outside and behind it; and still farther back is the section of the surcingle, which is here beginning to run downward and forward, along the roof of the inferior horn of the ventricle. At a lower section still, the head of the corpus striatum would be united with the cortical convolutions in front of the Sylvian fissure, and the surcingle with the gray substance of the amygdala."

Attention might be called to a few points of special interest.

An erroneous idea of the exact position and relations of the ganglia may result from always studying brains after they have been removed from the skull. The superior surfaces of the intra-ventricular striate body and of the optic thalamus do not present a horizontal plane when the brain is in position in the skull, as they appear to do after it has been removed. Cutting into the lateral ventricles, with the brain still resting on the floor of the skull, it will be found that the faces of these ganglia are nearly perpendicular.

The slight depth of a large portion of the caudate nucleus might, perhaps, mislead in careless autopsies. At the head of this nucleus, where it partly blends with the lenticular body, the depth of gray matter is considerable, but it is slight as you go backward, ranging, in some measurements which I have made, from one-eighth to one-third of an inch.

When examining the lenticular nucleus, the difference in color of its different segments should be borne in mind. These are very marked, and, through ignorance of them, I have seen the error made of supposing that a normal lenticular ganglion was invaded by a large sclerotic nodule. On transverse sections in the anterior third a uniform grayish tint is presented, but in the posterior two thirds, two, and sometimes three, colors or shades can be made out,—one the grayish hue alluded to, and the others yellowish or yellowish-brown. On making a central longitudinal incision,

the uniform gray tint of the heads both of the caudate and lenticular bodies is continued backward the whole length of the section, gradually tapering, however, and passing beneath the yellowish segments. These appearances are given by the two outer segments seen in the transverse cut. In infancy the differences in color between the parts of the lenticular nucleus are not so well marked as they are later in life.

We cannot be too particular in localizing lesions, and especially isolated lesions, of the ganglia and tracts. By so doing we may help to solve the problem—now so obscure—of the functions of these parts. The landmarks, as I have tried to show, being plain, this localization is not in reality a difficult matter. In some respects, indeed, it is less troublesome to locate and record lesions in the ganglia and capsules than in the convolutions, because in the latter we may have confusing secondary and tertiary deviations from the usual forms. In considering isolated lesions it must not be forgotten that they may exert pressure on surrounding regions.

According to Nothnagel (Ziemssen's Cyclopædia, vol. xii. p. 145), "lesions in the main cerebral ganglia from which spring the motor tracts of the crura cerebri, the *nucleus lenticularis* and the *corpus striatum* (*nucleus caudatus*), inasmuch as they are the most common of all, give rise to the most familiar group of symptoms." It seems to me, rather, that these lesions have taught us less that is exact than those of almost any other well-studied region of the brain, because, in the first place, absolutely isolated lesions of the ganglia and capsules are by no means common, and, secondly, because of the careless manner of making and recording lesions of these regions. It is probable that in the ganglia we have, in some way, representatives of each of the differentiated centres of the cortex. Certainly, as suggested by Charcot, the three gray nuclei of the lenticular body may be so many centres endowed with distinct properties and functions.

PHILADELPHIA ACADEMY OF SURGERY.

STATED MEETING OF MAY 2, 1881.

DR. R. J. LEVIS, Vice-President, in the Chair.

LARGE VESICAL CALCULUS.

DR. THOMAS G. MORTON exhibited a calculus weighing four and one-half ounces, and measuring six and one-half inches in circumference, which he had removed by a transverse vaginal incision from the bladder of a lady seventy-nine years of age. She had presented symptoms of vesical disease for forty years, but had never allowed an examination to be made. The stone was so large that it could not be turned within the bladder, and considerable difficulty was experienced by the operator in extracting it, as the instruments at hand were better adapted to the extraction of a small stone through the urethra. After the stone was removed, silver sutures were introduced, and the patient made a rapid recovery.

TWO CASES OF EXCISION OF PORTIONS OF THE INFERIOR DENTAL NERVE, FOR NEURALGIA.

Dr. Thomas G. Morton read the histories of the following cases:

Case I.—E. H., aged seventy-one, gave the following history. About nine years ago, began to have pain on the left side of the lower jaw. The first attack came on at dinner; it lasted for an instant only, and no further pain was felt for several days; it then recurred, and since, at short intervals, the attack has been very severe; generally came on during eating, but after moving the muscles of the jaw the pain subsided; a frequent cause of pain was from the use of the tooth-brush, talking, swallowing,—in fact, any movement of the jaw; although the attacks of pain would appear at night, disturbing sleep, not infrequently several times during the night. During the earlier part of the past nine years of suffering there were times—perhaps two or three—when there was an absence of pain for several weeks, but of late years the distress has been nearly continuous. Had tried all remedies suggested, without any relief. The pain seemed to originate at the angle of the jaw, and generally progressed forward into the teeth; now and then it would shoot into the temporal and facial region. Several molar teeth were removed on account of the neuralgia, but not the slightest improvement was observed. During the past few years, and especially the last twelve or fifteen months, the agony was great, causing loss of appetite, flesh, and sleep; and, indeed, the suffering made inroad upon the general nervous system.

In consultation with Dr. Agnew, it was agreed to excise a portion of the inferior dental nerve, and to make the section just above the jaw-angle. There was no abnormality of the jaw as far as could be observed, save a contraction incident to age and from the extraction of teeth. The diagnosis made was pressure from this upon the nerve-canal.

March 21.—The bone was exposed and the trephine was applied. As soon as the instrument had penetrated the cancellated structure, the circular portion of bone was removed, and the nerve and artery were seen lying directly in their usual course; the former was lifted on a hook, and after being thoroughly stretched half an inch was excised. There was no bleeding, for the artery was not injured. The wound was brought together with silver sutures; these were removed on the fifth day. In a fortnight E. H. was out driving and quite well. A few days after the operation he experienced a few (perhaps three

or four) twinges of pain, but momentary. A month has elapsed since this, and the relief has been entire; he has had no return, even of a twinge, as he writes me:

"I can eat, masticate, and swallow with a comfort and confidence that I have not known for years. My health, especially my nervous force, has much improved since the removal of the nerve."

The second case was that of a gentleman aged fifty-six, of this city. His symptoms correspond so nearly to those of the former case that the account need not be repeated. The length of time, however, had been much shorter, the duration of pain extending only through three or four years. He had tried every conceivable form of treatment without any effect other than the injury of general health from anodynes. The pain in this case was on the right side, and in removing the section of bone some points of special interest occurred, which are perhaps worthy of record.

April 13.—The trephine was applied at the usual place, midway between the upper and lower edge of the jaw, above the angle; and after gaining what seemed to be the centre of the structure the nerve could not be found, nor any evidence of the canal, nor was there any special hemorrhage, so that I reapplied the trephine, and a few turns carried the instrument through the entire thickness of the jaw. A careful survey showed the nerve much out of its usual course; it was found with a probe at the very uppermost part of the sawed section, in conjunction with the artery; a probe was passed around it, and it was drawn down and cut off. The artery, which was pricked, was tied in two places by ligature, and the wound was bought together by silver sutures. An excellent recovery followed, with an entire relief from the neuralgia, the patient being in a fortnight attending to out-door business, although the wound had not yet closed.

In both cases there was complete anæsthesia extending along the jaw and involving the soft tissues to the middle of the lower lip.

Dr. J. Ewing Mears stated that he had had some experience in the treatment of neuralgia of the trifacial nerve, and he thought it important to determine, if possible, before submitting the patient to operation, whether the lesion was central or peripheral. He had observed a number of cases in which excision of the nerve had been performed and the relief had been of a transient character. In operations which he had performed of removal of the alveolar border of the jaw, for the relief of alveolar neuralgia, permanent benefit had not been obtained. In one case he had cut into the inferior dental canal, and had removed a portion of the nerve with the roots of a tooth which were found imbedded in the jaw. The operation did not permanently relieve the pain. Other cases he had treated by long-continued medication, and the results were much more satisfactory than had been obtained by operations.

Dr. Morton said that in one of his cases the irritation certainly seemed to be peripheral, because it was produced by pressure upon a certain spot.

The patient is, at any rate, greatly benefited at the present time, though the neuralgia may recur. He had removed a portion of the second branch of the fifth nerve very often, and, having watched the cases, found them free from pain long after the operation. He thought that union of the divided nerve would not be likely to occur after operating on the inferior dental nerve, because the canal would be obliterated.

Dr. J. M. Barton had treated one of the cases mentioned by Dr. Morton by full doses of the usual remedies, and on account of failure to give relief had advised operation, which the patient at that time refused.

In operating himself, he used a much smaller trephine than Dr. Morton,—an instrument a half inch in diameter being found quite sufficient,—and had found the nerve to be nearer the upper edge of the jaw than the median line, especially in individuals who had lost their teeth, and in whom the alveolar process was absorbed, and who so often are the victims of this painful malady.

Pain returned in some cases for a short time after the operation, but then disappeared, which suggested that the disease was peripheral and the temporary neuralgic pain following was due to the irritation of the diseased portion by the operation, confirming the diagnosis of the disease being peripheral, and making the prognosis of a cure more favorable. When the neuralgia depends on central causes, Nussbaum's operation of ligation of the carotid artery may be proper. Fourteen cases of operation for this cause have been reported, twelve in Europe and two in America. Of these thirteen recovered and one died. Of the thirteen recoveries six were cured, four temporarily improved, one not benefited.

The operation was performed last summer at the German Hospital in this city, by my colleague Dr. F. H. Gross, on a patient in whom all three branches on one side were violently affected. Since the operation the patient has had no pain in the first and second branches, and only an occasional twinge in the inferior dental.

Dr. Mears would not oppose operation in all cases, but his experience convinced him that the results were not as good as usually believed. In view of this fact he thought, in order to obtain more decided effects, operations should include more than excision of the nerve. The branches of the three divisions of the fifth nerve which are involved in the neuralgic condition escape to the surface through osseous rings or canals, each accompanied by an artery and a vein. Assuming

localized pressure as the cause of the affection, this can occur, external to the nerve proper, by encroachments upon the calibre of the canals, as the result of inflammatory or structural changes in the bone-tissue, or by an hyperæmic condition of either artery or vein. Within the nerve abnormal fulness of the minute capillary vessels which permeate its structure could exert sufficient pressure here, as elsewhere in the body. Of these conditions bony constriction must be regarded as an exceedingly rare occurrence, whilst congestions of the accompanying artery or vein, or of the nerve-vessels themselves, may be frequently present. He would suggest, therefore, in all cases where excision of the nerve is performed, that the accompanying artery should be ligated, with a view to remove a probable exciting cause. He was aware of the good results which had followed ligation of the common carotid artery in trifacial neuralgias. This procedure cannot be employed in all cases, owing to its gravity, whilst the ligation of the artery in the canal increases in no respects the risks of the original operation.

Dr. R. J. Levis said that Dr. Morton's paper recalled a similar case in his own practice where the trephine had perforated a shrunken jaw-bone without any untoward symptom following. He had operated in four cases, and in only one was the success permanent. This patient had shown marked peripheral sensitiveness. (Since the meeting a letter from this patient's physician has been received by Dr. Levis, stating that the operation, which was done many years ago, was followed by relief for only a short time, and that the woman is at present a great sufferer from the original neuralgia.) He always used a very small trephine, and would expect the nerve to seem comparatively highly placed in a shrunken edentulous jaw. Failure had always occurred in his experience after Gross's operation of cutting away the alveolar process in case of neuralgia in the toothless jaws of old subjects. Recently, in neuralgia of the alveolar processes, he had dissected up the periosteum by incisions through the gum, detaching it freely from the surface of the superior maxillary bone in the endeavor to relieve the pain; but the result was not satisfactory.

Dr. De F. Willard recollected a case where the pain returned subsequent to operation, but about a year afterwards disappeared, and has not recurred, though many years have elapsed.

OBSCURE CASE OF ENLARGEMENT OF THE HEAD OF THE HUMERUS.

Dr. J. M. Barton presented a child of six years, from whose parents he could get no distinct history, with general enlargement of the upper extremity of the right humerus. Pain was said to have been present for two months, and there was muscular anchylosis of the shoulder-joint. Some of the symptoms suggested central sarcoma of the head of the humerus; but Dr. Barton desired the opinion of the Fellows as to the diagnosis, and asked whether any operative step, such as trephining, scraping out the cavity, if such were found, or excision, would be warranted in such an obscure affection.

Dr. T. G. Morton would be inclined to wait, and then possibly make an incision into the bone with the view of finding a scrofulous abscess.

Dr. O. H. Allis said the same case had applied to him about three weeks previously, with great pain and fulness in front of the shoulder, which was so acute that the child would scarcely allow the shoulder to be touched. He had applied a blister with the result of relieving pain, and had ordered a second one to be used upon the other side of the joint. The condition of the case was quite different now from what it was when last seen by him in his dispensary service.

Dr. John H. Packard thought the subsequent history of the patient would prove highly interesting. The existence of no joint-involvement and no appearance of periosteal abscess, coupled with the facts that tumors of bone are rare at such an early age, and that abscess of bone would hardly exist with as little pain as was at present manifested, rendered the case very obscure. The child, to his mind, presented some of the appearances usually associated with scrofulous affections.

PULSATING TUMOR AT ELBOW CURED BY LIGATION OF BRACHIAL ARTERY.

Dr. R. J. Levis exhibited the patient, who was shown at the November meeting of last year (1880) with an obscure pulsating tumor below the right elbow. He had subsequently ligated the brachial artery at the Pennsylvania Hospital, and the rapid cure of the case proved the tumor to have been aneurismal. There was now to be felt near the median line of the forearm a nodule which was evidently the shrunken sac.

Dr. Mears called attention to the fact that now the sac seemed to be at the radial side of the forearm, though in November the tumor was believed, if an aneurism, to be connected with the ulnar artery. It may have been at the lower part of the brachial. Both radial and ulnar now pulsated at the wrist, and the radial seemed stronger than the ulnar.

SPECIMEN OF ANCHYLOSIS OF ELBOW.

Dr. John B. Roberts presented a specimen obtained from his dissecting-room at the Philadelphia School of Anatomy, illustrating bony anchylosis of the elbow, due apparently to partial luxation backward of the ulna, associated with fracture of the olecranon process.

The altered position of the carpal ends of the radius and ulna, due to the displacement of the upper end of the ulna, was especially pointed out.

JOHN B. ROBERTS,
Recorder.

REVIEWS AND BOOK NOTICES.

ON THE ANTAGONISM BETWEEN MEDICINES AND BETWEEN REMEDIES AND DISEASE. Cartwright Lectures for 1880. By ROBERTS BARTHOLOW, M.D. New York, D. Appleton & Co., 1881.

Probably most of our readers will consider that we have awarded this treatise high praise when we say that it seems to us the most carefully written, best thought-out, and least dogmatic work which we have yet read from the pen of its author. It is indeed a very praiseworthy book; not an original research, indeed, but, as a *résumé* of the world's work upon the subject, the best that has hitherto been published in any language. It is composed of six lectures,—the first chiefly occupied with a history of the subject and a preliminary discussion of terms, etc.; the last, with a consideration of the relations of remedies to disease; whilst the intermediate four chapters are devoted to individual antagonisms. In a notice like the present we cannot, of course, follow discussions in detail; but we desire to call especial attention to the term "antagonism of remedies," because the common use of it seems to us to lead to inaccurate thinking as well as writing. The term "physiological antidotism of remedies" has been suggested and by some used as a substitute for antagonism, but is declined by Prof. Bartholow. It seems to us very clear that both terms should be employed as having different meanings. It is absurd, for instance, to say that one remedy is antagonistic to a second, but that the second is not antagonistic to the first; whilst it is perfectly conceivable—indeed, does happen—that one medicine is antidotal to a second, which is not in turn antidotal to the first. Suppose poison A kills by sweating into fatal exhaustion, poison B arrests sweat-secretion, but kills in overdose by paralyzing the centres of respiration: it is apparent that B would be antidotal to A, whilst in poisoning by B A would be of no service.

On page 69 of Prof. Bartholow's book we read: " . . . but chloral is an antagonist to strychnia poisoning, rather than strychnia is an antagonist to chloral poisoning." By substituting "antidotal in" for "antagonist to," the sentence becomes logical. This distinction is not merely of verbal importance: clear speaking and clear thinking are bound together. Indeed, very many of the researches upon so-called antagonisms throw little light upon the science of the question, however valuable they may be as studies of practical antidotism. When investigators generally recognize the difference in the two terms, we shall have made one step forward.

LECTURES ON SYPHILIS, DELIVERED AT THE HARVEIAN SOCIETY, December, 1876, by JAMES R. LANE, F.R.C.S., Surgeon to St. Mary's Hospital, and Lecturer on Surgery, Consulting Surgeon to the London Lock-Hospital. Second Edition. London, J. & A. Churchill, 1881. Fcp. octavo, 95 pp.

This little book is one of the most entertaining and instructive upon its subject which we have ever read. Mr. Lane has had in view to trace as concisely as possible the progress made of late years in the investigation of syphilitic venereal disease, to point out the generally accepted views of the present time and the principal points of divergence. This he does in a clear and satisfactory manner, describing the discovery of the non-identity of gonorrhœa and syphilis, the differentiation of the chancroid, the "unity" and "duality" theories, syphilization, phagedæna, reinfection, contagion of secondary syphilis, contagion by syphilitic blood, vaccino-syphilis, contagion of secretions of syphilitic patients, hereditary syphilis, visceral syphilis, the modern treatment of the disease, and its legislative prevention. Every physician who desires to be fully informed regarding the progress of medicine, or who wishes to refresh his memory as to the essential points in connection with syphilis, should obtain this little book and master its contents. Its market-price is not high, but it is worth its weight in gold. A. V. H.

DISEASES OF THE JOINTS. By RICHARD BARWELL, F.R.C.S. New York, Wm. Wood & Co.

To one who wishes to add to his library a useful work on diseases of the joints, this book can be recommended. It bears upon every page indications of careful, deliberate preparation. All that could make one master of his subject has been brought under tribute, and the reader becomes more and more impressed with the real value of the work the farther he proceeds in it. It is a book, however, that must be studied,—and studied carefully: it cannot be simply read. Neither can it be snatched up for examination upon a particular point with the view of getting the author's views. The author treats the subject as a whole, and he who would understand him on any one subdivision must pass in careful review all the preceding chapters. It is, therefore, not only unfair, but in this instance especially unjust, to criticise the views expressed at particular points,—since to be full at all points would require endless and tiresome repetition.

The work is abreast of the most modern pathology and therapeutics, and if lacking anywhere it is in surgical details. As these, however, may be found in any general work on surgery, the author has not felt it necessary to be more explicit.

We regret that so valuable a work should reveal its chief defects in the style of its author. After qualifying himself so nobly for his task, it is inexcusable that one so abundantly competent to write good—and by this we mean simple—English should mar a life-work by original word-building and by sentences rendered the more obscure by violation of the first principles of composition.

This, however, is the worst that can be said of the book. The kernel is in the nut, and will richly repay the labor to come at it. A.

A Manual of the Practice of Medicine. By H. C. Moir, M.D.

This work is a compilation, and is a good work of its class, but, in our opinion, it will be a bright day for the medical world when the class for which it is written is extinct. If monographs and treatises on medicine come to be entitled studies or treatises on morbid physiology, original thought will be stimulated, principles will be established of value to direct in special exigencies, and routine methods of work branded as distinctly inferior. The idea prevalent among the laity is fostered by such works as this, viz., that the medical man is near akin to the barbers and alchemists of olden times, that he has a definite recipe for every demand, and the idea is covered up that he is practising on the basis of scientific investigation combined with shrewd observation. But if the lame and the halt must abide, the crutch provided by this book is trustworthy and reliable. The book is a catalogue or dictionary of medicine, etiology, symptomatology, and treatment being each considered in a representative style; and it is worthy of especial mention that the therapeutics advised are in accord with most standard authority. But we cannot but think a book incomplete even as a dictionary when we can read, as on page 376, that digitalis is advised in chronic Bright's disease as a diuretic, and yet its properties as a stimulant to the heart and circulation are not dwelt on sufficiently to guide the venturesome practitioner in his watch for the dreaded symptoms of its toxic action; and this instance is cited as typical, in our opinion, of a defect in method of teaching.

Clinical Lectures on the Physiological Pathology and Treatment of Syphilis. By Fessenden N. Otis, M.D., Clinical Professor of Genito-Urinary Diseases in the College of Physicians and Surgeons, New York, etc. New York, G. P. Putnam's Sons, 1881. Octavo, pp. xvi, 116.

These lectures originally appeared in the columns of the *Boston Medical and Surgical Journal*. They are the expansion and amplification of the views of the author published ten years ago, with such modifications as experience has suggested. We can best characterize their scope by quoting a passage from a review (in the *Lancet*) of Dr. Otis's earlier papers, which he himself adopts: "His views are not based upon the results of any experiments, or new facts, or on the unravelling of observations. They consist mainly of deductions drawn from a close and elaborate reasoning on the acknowledged features of syphilis, in connection with the latest doctrines and hypotheses of certain pathological teachers." Want of space forbids our entering into the details of Dr. Otis's speculations, which must have an interest, however, for every student of—what we may term, in contradistinction to the more routine pickling of diseased organs and cutting and mounting of microscopic specimens—"transcendental pathology." We could wish, however, for a more lucid style, and for the omission of clinical detail, which, though very interesting in itself, distracts the attention from the main course of the argument. A. V. H.

De la Phthisie Pulmonaire et de sa Curabilité. Par Jean-Louis-Simon Joly, Docteur en Médecine. Paris, J. B. Baillière et Fils.

"As our medical practice dates twelve years, and the cases of cure we have obtained are quite numerous, we will only quote the most important observations." These words, on page 70 of this pamphlet, inspire us with enthusiasm, and our fancy depicts emoluments paling the fortunes of the venders of Schenck's Pulmonic Syrup or Jayne's Expectorant; but as we read of the curative influences of powders evolved from "la calcination de petits os de volailles," and of cod-liver oil, we recall that in the shadowy past, in our own land, these measures have been cautiously tried by some bold spirits. For cough our instructor would advise opium, codeia, pills of iodoform; for fever, aconite; for diarrhœa, liquid diet; as tonics, arsenic and strychnia. The *coup de main* is diet. This must be vegetable food strictly, since it is more acceptable to the stomach than animal food, and also vastly superior, because it contains the salts most desirable to secure and encapsulate the tubercle. As examples, French beans and wheat are cited, eggs and milk are approved, and an analysis of these unique foods is appended. Our author's belief is firm that phthisis is tubercular and develops from diathetic predisposition, scrofula playing a foremost part; excessive lactation in women, the fevers, diabetes, and exhausting conditions have a share as predisposing conditions. He disbelieves in the inflammatory origin of phthisis, although he admits a pleurisy is the antecedent of many cases of tubercular phthisis. In climate, the extreme cold of Lapland or an African sun seem to be his Utopia for the phthisical, large, airy, sunny rooms for those who cannot leave home. The thought will intrude itself, "Is there nothing new under the sun?"

E. T. B.

DRUGS THAT ENSLAVE. THE OPIUM, MORPHINE, CHLORAL, AND HASCHISCH HABITS. By H. H. KANE, M.D. Philadelphia, Presley Blakiston, 1881.

This is a small octavo book of about two hundred pages, in which are discussed with much detail the various questions connected with the habitual use of the narcotics named in the title-page. The most novel and by far the most interesting portion of the work is that in which chloral is dealt with, the conclusion being reached that it is the most dangerous agent of the class. We notice a rather remarkable statement in regard to the influence of opium. It is stated, "A *lady* who had used morphine by the mouth for sixteen years found her *virile power* during and at the end of that time in no way impaired; if anything, it was increased." We suppose the virile power of a lady must be her husband, either in general or in a particular part. Now, that the husband, either as a whole or in a member, should be increased by the use of opium by the wife, strikes us as worthy of attention.

Usually the English of Dr. Kane is good, and the book not only covers very well its allotted territory, but is more of a contribution to medical literature than are many more pretentious rivals.

APHORISMS IN FRACTURE. By R. O. COWLING, A.M., M.D., Professor of Principles and Practice of Medicine.

In the form of aphorism—*i.e.*, in pithy, clear, but comprehensive sentences—the author has said scores of useful things. Had he been content to employ his skill on the general truisms of the subject, his little pamphlet would have been incapable of harm. As it is, he has essayed the *treatment of the whole domain of fractures in ten pages*, and in this not only renders his work valueless, but even worse,—harmful.

We have nothing to say when men offer to teach music, painting, or a modern language in ten lessons; but when primers step forward and speak authoritatively upon a subject that on the one hand may cripple a patient for life, and on the other filch two thousand four hundred and fifty dollars from the treasury of the doctor (as lately occurred in Erie, Pennsylvania), we cannot regard the matter as a harmless joke, but must urge a protest against all such pretensions to medical teaching. A.

THE DIAGNOSIS OF DISEASES OF THE SPINAL CORD. By W. R. GOWERS, M.D. Second Edition. Philadelphia, Presley Blakiston, 1881.

Most of our readers are no doubt familiar enough with the first edition of this book to know that in its eighty-four pages is contained an excellent epitome of our knowledge concerning spinal cord diseases. Carefully and clearly written, it constitutes, in its original form, a valuable brochure for the practitioner's library; in its present revised shape it is certainly no less satisfactory, and in some parts, especially in the discussion of clonic and tendon reflex, decidedly more satisfactory, than it was as first penned.

A GUIDE TO THE CLINICAL EXAMINATION OF PATIENTS AND THE DIAGNOSIS OF DISEASE. By RICHARD HAGAN, Privat-Docent to the University of Leipsic. Translated by G. E. GRAMM, M.D. New York and Philadelphia, Boericke & Tafel.

This work represents the need of the younger portion of the profession and the students of medicine, but it gives them but a stone. It is too much condensed: in the effort to embrace all the field, it is practically but a slightly enlarged medical dictionary. Fifteen lines are devoted to aneurism, and no mention of symptoms save murmur and dulness over the course of the aorta. In diseases of the brain and its membranes it is much too laconic. The section on the examination of the urine is, relatively, the most comprehensive in the book, thirty pages being devoted to it; while but thirty lines are given to typhoid fever. The physical diagnosis is open to the same criticism: it is good so far as it goes, but the work does not compare favorably with books of its class, such as "Elements of Practical Medicine," by Alfred Carter, M.D., lately published by Presley Blakiston, of this city. E. T. B.

THE HEART AND ITS FUNCTION. (A "Health Primer.") New York, D. Appleton & Co., 1881.

> "A faint cold fear thrills through my veins
> That almost freezes up the heat of life.
> * * * * * * *
> This horrid image doth unfix my hair
> And make my seated heart knock at my ribs
> Against the law of nature."

Fancy calls to mind similar, though less poetic, laments from students after concluding their first course in physiology, and fancy pictures a similar state of mind in the dabbler in medicine who is buried in primers. A study of physiology affords a basis upon which a physician can advantageously advise his patient, but a primer renders a patient self-opinionated. E. T. B.

WHAT TO DO FIRST. By CHARLES W. DULLES, M.D. Philadelphia, Presley Blakiston.

A household proverb, "Necessity is the mother of invention," is set at naught by this work. She is a matron of essentially American stock, and the brains of her offspring are being whittled into imbecility by popular adaptations of medical science, of which this work is a type; or else they become paralyzed into inaction because individuals become unable to dissect "what to do first" from the accumulation of technical knowledge at their disposal.

GLEANINGS FROM EXCHANGES.

Impacted Foreign Bodies in the External Auditory Meatus.—Dr. Francis H. Brown (*American Journal of Otology*, vol. iii., 1881, p. 29) says that, judging from the remarks of some authors, the meatus auditorius is looked upon as a *terra incognita*, much as the colon or the pleural cavity would be, and its investigation to be entered on as we should that of any of the inner organs of the body. Every practitioner should, on the contrary, recognize the fact that the entire passage of the outer ear is within his sight, and that the treatment of its diseases should be governed by the same rules which would dictate his care of any other portion of the body's surface.

After speaking of the various instruments in common use for the removal of foreign bodies from the external auditory meatus, Dr. Brown says the point he wishes to make is that tightly-impacted bodies in the ear *must* be removed; that the practice of allowing them to rest even in cases where no apparent and immediate irritation and inflammatory action are present does not offer assurance that subsequent trouble will not arise, and, in fact, at some time or other, with the accumulation of cerumen in the ear, with the access of cold, or by some other means, the meatus is very likely to take on inflammatory action, in which case the integrity of the middle ear may be jeopardized. If the body is firmly impacted in the ear from the first, its very presence and pressure induce œdema of the meatus, and the longer it remains, the more unsatisfactory will be the attempt to remove it. A sort of burr is often formed, both before and behind the body, caused by the œdema to which the stoppage of circulation gives rise, and this may obscure the body from view. As an example of what may be expected when such foreign bodies are allowed to remain, Mr. Hutchinson speaks of a child with a locust-bean in its ear which could not be removed. The bean soon swelled, and filled the cavity. A week later the child was feverish, had pains in the head, then paralysis of the portio dura came on. Dr. Brown considers the Tiemann bullet forceps the best instrument for extracting, and he gives a note of a case in which an impacted kernel of corn was removed by this instrument, the patient being placed under ether rather than allow the seed to remain and swell within the meatus.

The Influence of Temperature on Absorption.—Sassesky (*Lancet*, vol. i., 1881, p. 637; from *St. Petersburg. Med. Wochens.*) has published the results of some observations on the influence of temperature on the absorption of drugs. These were introduced by the mouth, the rectum, or by hypodermic injection, in the case of persons in good health, and of others suffering from various diseases. Iodide of potassium, salicylic acid, ferrocyanide of potassium, and hydrochlorate of quinine were given in solution by the mouth and rectum, care being taken that each viscus was previously empty. The period after administration at which the drug could be detected in the urine was taken as the indication of the rapidity of absorption. For hypodermic injection, solutions of iodide of potassium and ferrocyanide of potassium were employed. It was uniformly found that, when given by the mouth or rectum, the higher the temperature of the solution the more rapidly it was eliminated, the results varying from two to forty minutes, and depending somewhat on the individual conditions of the patients. The results in hypodermic injection were doubtful. Manassein has suggested that warm liquids cause a more intense hyperæmia of the mucous membrane, and hence are absorbed more quickly. On the other hand, cold liquids cause an initial contraction of the vessels, which has the effect of delaying absorption.

Dangers of Chlorate of Potassium Exaggerated.—Dr. Harkin, in a letter to the *Medical Times and Gazette* (vol. i., 1881, p. 413) challenges the correctness of Dr. Jacobi's statements regarding the dangers of using chlorate of potassium. He says he has prescribed the chlorate through the medium of the maternal circulation, to the languishing fœtus in utero, with the greatest advantage; to the baby and the nursing mother (to the former directly as well as through the instrumentality of the mammary secretion); to the child in marasmus and struma; to the anæmic and menorrhagic female, and to sufferers from every phase of the hemorrhagic diathesis; in skin ailments from acne punctata to the boil and carbuncle,—in fact, to patients suffering from every class of disease depending upon debility or subaëration, from the time of childhood to the climacteric period of existence,—and he has never witnessed a single instance of permanent injury to health, much less to life. It may disagree, perhaps, in one case in a thousand, but here gives warning by a feeling of approaching dysuria, and the remedy can be at once discontinued before any real injury accrues. As to nephritis, Dr. Harkin remembers only a single case that at all approached this condition. Here a young lady suffering from phthisis had an attack of painful strangury, lasting some hours, but easily relieved by the ordinary means of stupes, hot baths, etc. Dr. Cutter, of New York, told Dr. Harkin of a case which recovered with difficulty after taking ten grains of the salt. As a contrast, Dr. Harkin mentions the case of a young man who, having been supplied with a gargle containing an ounce of the salt, through mistake drank the whole at a draught, and did not experience the least inconvenience as a consequence. Whilst therefore Dr.

Harkin does not give any credence to the exaggerated statements which have lately appeared in the medical journals, he does not think that the prescription of this remedy should pass out of the control of the profession and become a merely popular medicine, but that it should be given with caution, though without reserve under medical supervision.

WHAT IS RESORCINE?—Resorcine, says the *Journal of Chemistry* (1881, p. 52), belongs to a class of bodies called *phenols*, to which carbolic acid also belongs. In chemical composition they resemble alcohols. Pyrogallic acid is a triatomic phenol.

Resorcine was originally obtained by fusing certain resins, as gum ammoniacum or galbanum, with caustic potash, extracting it from the fused mass by acidifying with sulphuric acid and shaking with ether, and then purifying it by distillation.

Resorcine crystallizes in colorless plates or columns, and dissolves readily in water, alcohol, and ether. It melts at 104° Cent. (219° F.), and boils at 271° Cent. (520° F.), and can be obtained perfectly pure by distillation. It is claimed that it can be made in Switzerland for four dollars per kilometre (about one dollar and eighty cents per pound), but we find it quoted in German price-lists at from seven dollars and fifty cents to ten dollars per kilometre, or about twice the price of salicylic acid. To some extent the price will depend upon the demand.

Resorcine is not poisonous in moderate doses. From twenty-five to thirty grains is required to produce any marked effects. It has been found to reduce the temperature in febrile complaints, but its effect is of short duration, and unpleasant after-effects have been noticed. One of its isomers—hydrochinone—is preferred for use in fevers, the dose being smaller. The third isomer, pyrocatechine, has powerful toxic properties.

Andeer has recently investigated the properties of resorcine, and finds that it possesses the power of stopping decay. A one-per-cent. solution of chemically-pure resorcine will stop the development of fungi and mould. In every degree of concentration it coagulates albumen and precipitates it from solution, on which account it may be used as a caustic to remove unhealthy tissue. In crystals it cauterizes as powerfully as lunar caustic. In homœopathic doses resorcine will preserve ink and colors, which would otherwise mould quickly, and does not injure the color. To stop fermentation completely requires a rather strong solution of one and a half to two per cent.

Dr. Koller prophesies a great future for resorcine, which, he says, will be the disinfectant and antiseptic of the physician, the druggist, and the chemist. It must not be forgotten, however, that resorcine is too powerful a reagent to be taken internally in unlimited amount.

TREATMENT OF LABIAL OR MALIGNANT CARBUNCLE.—At the recent meeting of the American Medical Association (*New York Med. Record*, vol. i., 1881, p. 542), Dr. Charles A. Leale read a paper on this subject, in which, after giving an account of the etiology and pathology of facial carbuncle, he recommended the following treatment. Bearing in mind the arteria septi nasi, a free incision is made outward and downward along the course of the fibres of the orbicularis oris muscle, extending the cut each way until all the diseased tissue has been passed, taking care not to go through the mucous membrane lining the lip, to which the disease rarely extends; then, with a fine piece of ivory or wood covered with cotton, chemically pure nitric acid is thoroughly applied to the cut surface. This is to be pressed in with such force that every little pocket of pus is reached and the intervening membranes destroyed, which would otherwise be left to slough and to continue the septic or purulent infection. Morphia p. r. n. should be given, and whisky largely diluted with water. In some cases Dr. Leale has found it necessary to reapply the acid on the second or third day. The subsequent treatment is that of an open wound, an ointment of balsam of Peru being applied upon lint.

Dr. Leale claims that by this treatment all the little canals making the cut surface appear like a sieve are reached and the entire poisonous mass rendered inert and kept within circumscribed boundaries, and the absorbed poisons, by sustaining the system, are eliminated. In the early part of the treatment a full dose of sulphate of magnesia, largely diluted with water, is given. Generally all danger is past by the third or fourth day. The scar left is usually small. Acute mania sometimes supervenes from erysipelas or cerebral meningitis. The latter is to be treated with hypodermic injections of morphia, the former by the usual lotions, etc. The cause of failure in carbuncle and malignant pustule treated by the ordinary method is that only a portion of the diseased mass is reached, the *materies morbi* imprisoned in the minute pustules being left.

CONSTITUTIONAL EFFECT OF CHRYSOPHANIC ACID.—Prof. Charteris (*Lancet*, vol. i., 1881, p. 651) relates the case of a boy nine years of age, admitted to his wards suffering with psoriasis. He was ordered to be rubbed with the chrysophanic acid ointment (one drachm to one ounce of vaseline), and four days later the nurse informed the doctor that the boy had been sick and vomited. Circumstances pointing to the absorption of the acid as a cause of this mishap, the strength of the ointment was reduced one-half, and the little patient recovered from his psoriasis without further untoward symptoms. But the idea was suggested to Prof. Charteris's mind that the acid might have acted constitutionally, and

in several cases of psoriasis coming under his care subsequently a portion of the body affected, as an arm or leg, was wrapped up and protected from the action of the ointment which was applied elsewhere. The effect was somewhat surprising, for although the disease did not disappear so rapidly upon the protected portion of the skin, yet it did disappear during the employment of chrysophanic acid inunctions upon an entirely different part of the body.

Iodide of Ethyl in Asthma.—The *New York Medical Journal* for June, 1881, publishes three cases of asthma treated with inhalations of iodide of ethyl, with remarkable benefit. They occurred in Dr. R. M. Lawrence's service at the Boston Dispensary. Following the cases are some remarks by Dr. Lawrence, in which he says of the iodide of ethyl, "Its speedy absorption into the blood, its antispasmodic quality, and prompt reflex stimulation of the respiratory muscles, may reasonably account for its beneficial action in the asthmatic paroxysm, while its power of liquefying and detaching accumulations of mucus sufficiently explains its curative influence in chronic bronchitis. . . . Experience has confirmed my faith in its remedial worth in a large majority of cases of labored respiration (whether due to bronchial spasm or to increased mucous secretion), and also in certain obstinate cases of dyspnœa, not due to organic pulmonary or cardiac lesions, where other remedies may have proved inefficient. In a small minority of cases it has failed to afford relief." He does not recommend it as a substitute for internal medication, but rather as an adjunct thereto.

Treatment of Carbuncle by the Ether Spray.—Zimberlin (*N. Y. Med. Rec.*; from *Schmidt's Jahrb.*, No. 1, 1881) has obtained favorable results in two cases by this method. The first was a malignant pustule, which, on the fifth day, was as large as a fifty-cent piece, and surrounded by an intensely red areola. Ether spray from a Richardson's atomizer was directed upon it and its temperature reduced. On the following day the pustule was found covered with a dry scab and surrounded by a large inflammatory areola. Five days later the inflammation had subsided, the scab came away, leaving only a sensitive skin behind it. The same treatment was successful in a case of carbuncular œdema in an arm which it had already been decided to amputate.

Fluoric Acid in Bronchocele or Goitre.—Dr. Woakes (*Lancet*, vol. i., 1881, p. 497) has used fluoric acid in twenty cases of goitre, with seventeen cures and three failures resultant. The acid was given in the dose of fifteen minims to one drachm thrice daily, largely (two hundred parts) diluted with water. Injections of iodine and the coincident administration of iron and tonics aid the effect of the fluoric acid, which in some cases produces its effect with surprising rapidity.

MISCELLANY.

A New Departure in the Regulation of Prostitution.—As the question of the legal regulation of prostitution is now coming in different ways before the medical profession, the recent action of the Municipal Council of Paris in reference to it may be of interest.

In all countries where government regulation exists it has been found necessary to establish a special police for the enforcement of its regulations, and tribunals, consisting of magistrates, or officials specially designated, before whom women arrested under them are brought for the more speedy and private settlement of points growing out of the regulations, so as to avoid the slow proceedings and public scandal of such proceedings in ordinary court-rooms. This private and arbitrary mode of dealing with these women has always been one of the points most strongly objected to by the opponents of the system, and has been equally warmly upheld by its supporters, and has been adopted even in England.

At a meeting of the Municipal Council of Paris, held December 28, 1880, it was resolved, by a majority of 33 to 12, to abolish this police and their private tribunals.

The following are the resolutions, as given by the *Bulletin Continental* of January 15:

"The Council considering that the existing institution of the 'Police of Morals' violates individual liberty without accomplishing the results expected from it in its two objects, —the diminution of syphilis and the repression of offences against public order and morals, —*Resolved*,

"*First.*—That the municipal administration is requested to prepare, as speedily as possible, a plan for the establishment of gratuitous medical and pharmaceutical service for the treatment of syphilitic disease.

"*Second.*—The municipal administration is requested to prepare a system of organization which will substitute the ordinary police for the present agents of the police of morals, in everything concerning the preserving of public order in reference to prostitutes.

"*Third.*—Violations of public order and morals shall no longer be referred to arbitrary, special administration, but to the regular course of justice.

"*Fourth.*—The result of this reorganization shall be the suppression of the police of morals, to take effect on January 1, 1882."

The same change has been made, it is said, at Brussels. The fact is of especial interest, because Ricord, in a recent editorial on the subject of regulating prostitution, declares that the Bureau des Mœurs is an essential part of it. If one goes, so must the other. This remains to be seen, however.

An Æsthetic Hospital Ward.—One of the wards in the Louth County Infirmary at Dundalk has just been reopened, having been

refitted at considerable expense by Lord Clermont. The ward, which has been named after the noble lord, in recognition of his generosity on previous occasions to the institution, is thirty-seven feet long by eighteen. The ceiling is vaulted, having an opening in the centre to carry off the foul air. The walls are formed by a deep-brown skirting tile, surmounted by turquoise-blue hexagonal tiles and a moulded cutting-tile of brown and lemon color. The entire forms a dado five feet one inch in height, reaching to the window-sills. The plastering above is finished in Keen's Parian cement, of a delicate salmon color. An extremely-handsome stone chimney-piece, five feet eight inches in height, elaborately carved in the upper cross-piece, and having the words "I was sick and ye visited me" carved across the front, stands at the end of the ward. The fender is also Portland stone, the fireplace being tiled and containing a handsome dog-grate.

The Manufacture of Vinegar.—A German with the suggestive name of *Wurm* has established a factory at Breslau for the manufacture of vinegar from alcohol and water by the aid of *Mycoderma aceti*. The operation is performed in large wooden vats, provided with covers pierced with minute holes, and pipes for the renewal of the acetified alcohol and the withdrawal of the vinegar when it has reached the proper strength. The operation is begun by adding to the vat of water 2 per cent. of alcohol, 2 of ordinary vinegar, and 0.01 per cent. each of potassium, calcium, and magnesium phosphates, and 0.02 per cent. of ammonium phosphate. The temperature is kept at about 80° Fahr. The surface is then sown with a layer of *Mycoderma aceti*, and the lid fastened down. The acetification is said to proceed at more than double the usual rate. The phosphates form the natural food of the mycodermæ, and keep them in good health and condition.—*Boston Journal of Chemistry.*

Polypodium Incanum.—We have received from Dr. C. H. Mastin, of Mobile, a specimen of the above plant, with the following statement:

"It has been brought to my notice by a very intelligent lady from the interior of this State, who informs me that it is largely used by the negroes and others in the country as an emmenagogue, and that, in her observation, it is vastly more reliable than anything she has known used.

"She tells me that she knows of one plantation upon which there are a very large number of negroes residing, and that she is positive there has not been a child born there for years past, and it is well known that the females are in the habit of anticipating every menstrual period by a cup of the decoction of this plant.

"I have under my care at this time a lady from the country who has been suffering from uterine trouble and difficult menstruation, who tells me she is always quickly relieved by a teacup of the decoction of the plant which I send you."

American Medical College Association.—The late meeting of this association at Richmond was a pronounced failure, and the indications are that it was the beginning of the end of the organization. Although there were present in the city a goodly number of representatives of the medical colleges of the country, it was only after several attempts that a quorum was drummed up. The spasm of virtue which resulted in the fixing of the three courses of lectures, a year ago, has relaxed, and there seems to be a disposition to prepare for a very general collapse next year, when the three-session plan is to be enforced. The withdrawal of leading Eastern schools, and the expressed determination of others (Jefferson, for instance) to withdraw when the time arrives when the three courses are to be made a condition of membership, has had a very disheartening effect on the small Western schools. Jefferson, in spite of the demi-gods in its faculty, is, like most of the other medical schools, run for lucre; and since it has transpired that in spite of its immense facilities for clinical instruction it does not make a utilization of them a condition of graduation, lest perchance such condition might keep away students, the stand taken by its representative, Dr. Gross, at the late meeting, was not a surprise. Self-interest controls them all, and that, too, in spite of claims of devotion to the "good of the profession," "a higher medical education," and all such cant.

What will the West do under the circumstances? Remain steadfast and thus sacrifice her schools, or return to the two-course plan?

The College Association, it is to be feared, is powerless for reform, and the profession cannot compel it. Then how is it to be effected? The only bodies having the means in their hands to compel it are the State legislatures, who can divorce the teaching from the examining and licensing body; but they will require much educating before they move in the matter.—*Michigan Medical News.*

The Apothecary's Prayer.—One of the objects of interest at the recent meeting in Richmond, and which was a source of considerable amusement and banter, was a reprint of an old engraving representing a cadaverous pharmacist kneeling before a chair and offering up the following supplication:

"O mighty Æsculapius! hear a poor little man overwhelmed with misfortunes; grant, I beseech thee, to send a few small *fevers* and some obstinate *catarrhs* amongst us, or thy humble supplicant must shut up shop. And if it should please thee to throw in a few *cramps* and *agues* it would greatly help thy miserable servant; for, on the word of an

Apothecary, I have scarcely heard the music of a *mortar* this two months.

"Take notice also, I beseech thee, of the mournful condition of my neighbor CRAPE, the Undertaker, who suffers considerably by my want of practice, and loses many a job of my cutting out: enable him to bear his misfortunes with philosophy, and to look forward with new hope for the tolling of the bell.

"*Physic* those, I beseech thee, that will not encourage our profession, and *blister* their evil intentions, viz., such as their cursed newly-invented water-proof; and may all the coats be eaten by the rats that are so made. But pour down the *Balm of Gilead* on the Overseers of the village, and all the friends of *Galen*.

"May it please thee to look over my book of bad debts with an eye of compassion, and increase my neighbors' infirmities; give additional twinges to the Rector's *gout* and our worthy Curate's *rheumatism;* but above all I beseech thee to take under thy especial care the Lady of Squire HANDY, for should the child prove an heir, and thy humble servant so fortunate as to bring the young gentleman handsomely into the world, it may be the means of raising me to the highest pinnacle of fortune."

PROFESSOR PIROGOFF.—The fiftieth anniversary of the professorship of this eminent surgeon was celebrated on June 5. From the Russian journals we learn that he commenced his studies in the University of Moscow in 1824, and left in 1828, being then only seventeen years of age. After this he attended lectures in Dorpat and Heidelberg, and when only twenty years old was appointed to the chair of surgery in Dorpat, where he taught anatomy from 1836 to 1840. In the latter year he was invited to the professorship of surgery in St. Petersburg. In 1848 he served with the army in the Caucasus, and in 1853 in the Crimea. At the recent meeting of the German Surgical Congress it was resolved to send him an address on the occasion of the anniversary.

THE cable announces the death of Dr. Josef Skoda. Born in Bohemia in 1805, he graduated at the Vienna medical schools in 1831, in 1834 became second physician to the general hospital at Vienna, and became successively physician for the division of lung diseases, chief physician of the hospital, Professor of Clinics, and a member of the Vienna Academy of Sciences. Professor Skoda was one of the first to popularize the use of the stethoscope of Laennec, was a great authority on pathological anatomy and on the new methods of auscultation and percussion, and was considered the head of the new German school of diagnostics.

WHOLESALE DISTRIBUTION OF COFFINS.—In the report of the Municipal Special Committee of Hygiene of Rome, says the *Lancet*, we are told, with some unction, that, although there were only 722 deaths in the month of February, no less than 525 coffins have been distributed gratuitously to the poor.

NOTES AND QUERIES.

OBITUARY.

DR. H. LENOX HODGE, Demonstrator of Anatomy in the Medical Department of the University of Pennsylvania, died in this city, on June 9, in the forty-fifth year of his age. He was a son of the late Hugh L. Hodge, the distinguished obstetrician. Graduating in medicine from the University of Pennsylvania in 1858, he served in the army during the late war, taking part in various campaigns, and also serving in the Satterlee Hospital in West Philadelphia. In 1870 Dr. Hodge received the appointment of Demonstrator of Anatomy in the University, an office which he held until his death. Dr. Hodge was somewhat reserved in manner, and was in consequence less widely known perhaps than his abilities would have justified; but within the circle of his acquaintance he was much beloved, and his lofty personal character, public-spirited philanthropy, and devotion to the best interests of the medical school gained him the unfeigned esteem of the profession. He was the author of a number of papers on surgical subjects, an active member of the Pathological Society (of which he was at one time president), and a zealous promoter of the cause of charity organization.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM MAY 29 TO JUNE 11, 1881.

BAILY, E. I., LIEUTENANT-COLONEL AND SURGEON.—So much of Par. 1, S. O. 112, c. s., from A. G. O., as directs him to report in person to the Commanding General, Division of the Pacific, for duty as Medical Director of the Department of California, is revoked. S. O. 121, A. G. O., May 27, 1881.

Having reported at Division Headquarters, in compliance with S. O. 112, Par. 1, c. s., A. G. O., is assigned to duty as Attending Surgeon in San Francisco, relieving Surgeon C. C. Keeney. G. O. 10, Division of the Pacific and Department of California, May 31, 1881.

COUES, E., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to temporary duty as Post-Surgeon at Fort Verde, A.T. S. O. 56, Department of Arizona, May 20, 1881.

CORSON, J. K., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for one month, with permission to apply for an extension of two months. S. O. 61, Department of Arizona, May 31, 1881.

HEIZMANN, C. L., CAPTAIN AND ASSISTANT-SURGEON.—The telegraphic instructions of 22d instant to Commanding Officer, Fort Townsend, W.T., directing Assistant-Surgeon Heizmann to report at these Headquarters, confirmed. S. O. 71, Department of the Columbia, May 23, 1881.

AINSWORTH, F. C., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from temporary duty at Post of San Antonio, Texas, and assigned to duty at Fort Clark, Texas. S. O. 76, Department of Texas, May 31, 1881.

SHUFELDT, R. W., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to temporary duty in the Surgeon-General's office. S. O. 129, A. G. O., June 7, 1881.

PERLEY, H. O., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty in Department of Dakota, and to comply with S. O. 104, c. s., A. G. O. S. O. 97, Department of Dakota, June 6, 1881.

POWELL, J. L., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty with Co. "A" Twenty-Second Infantry on arrival at Fort Concho, then to proceed to Fort Stockton, Texas, and report to Post-Commander for duty as Post-Surgeon. S. O. 76, c. s., Department of Texas.

BENHAM, R. B., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty at Fort Abraham Lincoln, D.T., and assigned to duty at Fort Assiniboine, M.T. S. O. 97, Department of Dakota, June 6, 1881.

PHILADELPHIA, JULY 2, 1881.

ORIGINAL COMMUNICATIONS.

REMARKABLE CHANGE OF COLOR OF THE HAIR FROM LIGHT BLONDE TO NEARLY JET-BLACK IN A PATIENT WHILE UNDER TREATMENT BY PILOCARPIN—REPORT OF A CASE OF PYELO-NEPHRITIS, WITH UNUSUALLY PROLONGED ANURIA.

BY D. W. PRENTISS, A.M., M.D.,

Professor of Materia Medica and Therapeutics in the National Medical College of Washington, D.C.

MISS C., aged 25 years; a blonde, with light-blue eyes; petite figure; weight, about 100 pounds; previous health, good; occupation, school-teacher.

October, 1879.—Missed menstrual periods from this date to January, 1880, when she menstruated, and again missed until August, 1880. From October, 1879, to January, 1880, she suffered from obstinate constipation, but continued her labors at school.

Came under my care in January, 1880, for the constipation. This was very obstinate, the usual succession of purgatives failing to produce any result for a week or ten days, when the bowels would move, and immediately there would set in a profuse diarrhœa, thirty or forty watery stools in two or three days, continuing until checked by opium. For three months these alternating attacks of constipation and diarrhœa recurred, in spite of all endeavors to regulate the bowels. On several occasions there occurred large evacuations of pure jelly, from a pint to a quart at a time,—passages such as are described as sometimes being seen in membranous enteritis. This condition was finally relieved by general galvanization, applied three times a week, from thirty-six gravity battery cells. In June, 1880, there was retention of urine for thirty-six hours on two occasions, the patient from delicacy not mentioning the fact until afterwards. This was followed by an attack of acute cystitis, attended with fever, great pain in the bladder, and abundance of pus in the urine. Under appropriate treatment the acute symptoms subsided, but left behind them a chronic inflammation of the bladder. From the beginning of the cystitis until the following winter the patient was unable to pass water voluntarily, and the catheter was used regularly.

The principal treatment of the chronic cystitis was repeated daily, washing out of the bladder with a one-per-cent. solution of carbolic acid. Her condition steadily improved; but in July, 1880, there occurred an extension of the diseased process to the pelvis of the left kidney, accompanied by diminution of urine, and great pain and tenderness over the region of the kidney.

The following is the result of an examination of the urine by Dr. E. M. Schaeffer, microscopist: "July 21, 1880.—Color, pale; turbid; reaction acid; specific gravity, 1.014; no albumen (except in pus). Microscopically examined: copious deposit of muco-pus; bladder-epithelium in small amount; no triple phosphates; one pale cast seen after careful search. I do not think the pus is from the bladder in this case."

Dr. S. C. Busey saw the patient several times in consultation, and coincided in the diagnosis.

Other symptoms than those arising from the bladder and kidney, already mentioned, were alternating constipation and diarrhœa,—now easily controlled, however,—obstinate vomiting, violent headache, and sleeplessness.

Hypodermic injections of morphia relieved the headache, after many other remedies had been tried, but the morphia seemed to increase the vomiting and intensify the insomnia. After the failure of bromides to cause sleep, a trial was made of the fluid extract of Jamaica dogwood (*Piscidia erythrina*), which, when given in teaspoonful dose at bedtime, usually secured a good night's rest. The piscidia, however, was frequently rejected by the stomach, and it was further observed that it had no effect in relieving pain. When pain accompanied the insomnia the Jamaica dogwood did not cause sleep. It was further noticed that it did not cause constipation, but, on the contrary, the bowels were usually moved spontaneously the day following its administration. At one time—latter part of August, 1880—the vomiting was so constant that nothing was retained,—neither medicine nor nourishment. During this period nourishment was given by the rectum, and medicines hypodermically.

The above condition continued, with very little change, the patient being confined to bed, until November 15, when symptoms of pyelitis of the other (the right) kidney developed: great pain and tenderness in the region of the right kidney, with very marked diminution in the quantity of urine, so that for ten weeks it did not average above two ounces daily. This contained a large amount of pus, and at times had a putrid odor. At one time, for seven days (from December 16 to 23) not a drop of urine was excreted, although the catheter was introduced twice daily. Extreme uræmic symptoms developed. Dry skin, but no itching; incessant vomiting; nervous restlessness and twitchings of the limbs, flushed face, severe headache, confusion of vision, and delirium at times. This attack was tided over by the free use

of pilocarpin, and the secretion of the kidneys returned.

A record was kept of the amount of urine excreted, and this shows that from January 22, 1881, to February 2 (eleven days), not a drop of urine was passed from the bladder, the catheter still being used twice daily, and from January 22 to February 12 (twenty-one days) but thirty-six grains, or a little over two ounces of urine, were passed. Previous to December 16 the hot bath and hot pack were resorted to several times for the purpose of producing sweating, but unsuccessfully. An attempt was made to give infusion of jaborandi, both by stomach and rectum; neither was retained. Then the solid extract in gelatin-coated pills was tried by stomach, but rejected. Finally, on the 16th of December, I commenced giving hydrochlorate of pilocarpin hypodermically, in dose of one centigram (gr. ⅙). The patient was wrapped in a warm blanket, with bottles of hot water around her, previous to the administration of the hypodermic. It is to be observed that the hot bath and hot-bottle packing had been used previously without causing diaphoresis, and on two or three occasions where the hot packing was omitted the sweating from the pilocarpin was not nearly so profuse. Between the dates of December 16, 1880, and February 22, 1881, twenty-two "sweats" were administered, requiring the use of thirty-five or forty centigrams of pilocarpin. As the patient became accustomed to the medicine, it was found necessary to give two powders (two centigrams) of the pilocarpin to obtain the desired effect.

The action of the drug was carefully noted, and was as follows. Immediately, almost before the needle was withdrawn, the face and neck would flush up bright red, and dimness of vision be noticed. This was shortly followed by palpitation. In three minutes, slight nausea; eyes, nose, and mouth beginning to water, and skin showing moisture. In seven minutes, free vomiting, profuse sweating, and salivation. The action of the drug lasted from four to six hours.

An analysis of the phenomena produced results as follows:

Vomiting.—The vomiting continued throughout the "sweat" almost without intermission, and was the most distressing symptom of the ordeal. After a spell of vomiting, the patient would lie back on the pillow, hoping for a rest, when it would again return. The odor of the ejecta during February was very offensive, like decayed vegetable matter. The amount discharged in this way, which, of course, includes the saliva, was never less than two quarts, and often as much as a gallon. The patient states that she did not swallow the saliva, and insists that a large portion thus brought up came directly from the stomach. This would indicate that the pilocarpin also causes a fluid discharge from the stomach. Nausea and vomiting ceased as soon as the effect of the medicine passed off, and food was taken and retained, although previous to the "sweat" the stomach would reject everything.

Salivary glands.—In the beginning of the "sweat," water flowed freely from the eyes and nose, as well as from the mouth, but when salivation was fully established the eyes and nose ceased to discharge. The saliva was viscid and tenacious, so that to clear the mouth it was necessary to use a handkerchief. Its flow was so profuse that after thus clearing the mouth she would not have time to get a drink to quench thirst before the mouth would again be filled; so also talking connectedly was altogether prevented. Water drunk during the sweat at no time exceeded a gobletful.

Perspiration.—First noticed on forehead and neck; then the skin of the whole body, which had previously been dry and harsh, became moist. When sweating was fully established, the water ran in little streams over all parts of the body; in the face it was with difficulty kept out of the eyes. In five minutes the hair would be saturated, and, though wiped dry, it would be again soaked in a very short time. In odor the perspiration was offensive, and on several occasions had a distinctly urinous smell.

Action on heart.—Pulse became rapid in a few minutes, and when the action of the drug was fully established a thumping palpitation added to the distress, aggravated by the vomiting. This "thumping" could be heard at a distance of six feet, and continued with decreasing violence until the close of the paroxysm. The pulse ranged from 120 to 136, and was weak and compressible.

Bowels.—Just as soon as the perspiration was freely established, the bowels moved, always a large action, and on several occasions were moved more than once.

Eyes.—Pupils contracted to a small point. Sight became impaired at the first rush of blood to the face, and the dimness continued to increase, until it was impossible to distinguish objects beyond the foot of the bed. As the effects wore off, the exhaustion was extreme; pulse 130 and feeble; but there was a grateful sense of relief, and a disposition to sleep even before the sweating ceased. The head was no longer dizzy; pain in the kidneys less; stomach free from sickness, and the tongue free from coating. A quiet sleep followed, lasting several hours, from which the patient awaked refreshed and hungry.

Amount of fluid discharged during a "sweat."—This, of course, could only be estimated. Fluid from the acts of vomiting was caught in a basin, which was emptied when one-half or two-thirds full three or four times, and each time contained not less than a quart.

The blanket in which the patient was wrapped was saturated, as was also a folded sheet under the blanket. The pillow was saturated through, and the bolster beneath wet.

An experiment was made of saturating the blanket to as near as possible the same degree as when used in the sweat, and five pints of water were required. We have, then, this calculation:

By vomiting and saliva . .	7 pints.
" saturated blanket . .	5 "
" sheet, pillow, and body-clothes	2 "
	14 pints.

This seems almost incredible, but I believe the amount stated is strictly within the truth. The patient and her attendants think that the amount is understated, rather than exaggerated.

Since February 22 no pilocarpin has been administered, the symptoms having so much improved that it did not appear to be demanded. The symptoms of congestion and inflammation in the right kidney gradually disappeared, and the excretion of urine returned.

The amount of urine from that date up to the present time (June 1) has varied from a few ounces up to one and a half pints (March 3, 1881). In February the use of chloroform by inhalation was resorted to for the purpose of warding off impending convulsions. It had a very happy influence over the nervous symptoms, and appeared also to increase the amount of urine. Several times was its use followed by an increased flow of urine.

It is unnecessary, and would be tiresome, to record in detail the treatment employed to meet individual symptoms in this case. Her present condition, while it cannot be termed convalescent, is, under the circumstances, eminently satisfactory. The right kidney seems to be well; there is still pain in the left kidney, and occasionally muco-pus in small quantity in the urine. She is now able to sit up a portion of each day, and has been out to ride several times. Dr. S. C. Busey saw the patient frequently in consultation.

CHANGE IN THE COLOR OF THE HAIR.

I send four specimens of the hair.* The first, taken November, 1879, and the second, November, 1880, are as nearly as possible the same color, *a light blonde with a yellow tinge*. The third specimen, January 12, 1881, is a *chestnut-brown*, and the fourth, May 1, 1881, *almost a pure black*. The growth of the hair has also been more vigorous and is thicker than formerly. It is also much coarser, as is readily seen by a comparison of the specimens.

* These specimens received: they correspond with description.—Ed. *P. M. T.*

Dr. Emil Bessels, of the Smithsonian Institution, has made a microscopical examination of the hair, and reports that it is in every respect normal, that the change in color is due to an increase of the normal pigment, and not to a dye. The dark hair is shown to be much coarser than the light. Accompanying the change in the hair of the head there has been a corresponding change of color of hair upon other portions of the body,—not, however, to so marked a degree. In the axilla the color is about that of the specimen of January 12, 1881. There has been also a change in the color of the eyes, from a light blue to a dark blue. The use of the pilocarpin was commenced on the 16th of December, 1880. The hair was first noticed to be changing color December 28, 1880. As to subsequent changes the specimens speak for themselves.

The important question here presenting itself is, Was this change of color due to the pilocarpin or to some other cause? I have not seen such an effect noted as the result of jaborandi, yet there seems to be in this case no other reasonable explanation. The disease can hardly be charged with it, for uræmia is of too common occurrence for such an effect to have escaped observation, even though it were only occasional. Nor have we any reason to suppose that the change was due to the combined effect of uræmia and the jaborandi.

The change had not commenced in the latter part of November, 1880, when specimen No. 2 was taken. The pilocarpin treatment was begun on the 16th of December, 1880. Twelve days later it was first noticed that the hair was of a darker color, and from that date the alteration was rapidly progressive.

It is well established that jaborandi increases the nutrition of the hair, stimulates its growth, and renders it thicker. Changes in the color of the hair are of frequent occurrence as a result of sudden violent emotions, such as fright, great grief, or even sudden joy: the change, however, is always from dark to white. But a rapid change from light to black I have seen nowhere recorded. The flaxen hair of childhood becomes gradually darker during adolescence; but usually no further change takes place after adult life is reached.

After protracted illness, such as typhoid fever, it frequently happens that the old

hair falls out and the new growth as it appears is of a darker color. The change, however, does not take place in the old hair. In mammals and birds, however, we have numerous instances of changes of color in both directions,—from dark to light, and the opposite, this change being due not merely to new growth, but to an actual alteration of the color of existing hairs or feathers.

Dr. Weinland investigated this subject from museum specimens, and was led to the conclusion that change of color was due to increase or diminution of oily matter. The fresh feathers were examined from the breast of a merganser, and the red color found to be due to numerous lacunæ filled with a reddish oil-like fluid. When dried, the feathers bleached, and it was then found that the lacunæ were filled with air only.

According to this theory, an increase of nutrition would have a tendency to darken the hair, and *vice versâ*. This is borne out by the fact that dark or black hair is almost always thicker and coarser than light hair, and also by the change in hair to gray and white as age advances and the processes of nutrition become enfeebled. So also when the hair is thin, shaving the scalp will generally cause it to become thicker, firmer, and darker. This can only be through the influence of nutrition.

It gives us a clue also to the *modus operandi* of the change in the case here reported, for we know by clinical experience that pilocarpin increases the nutrition of hair, as shown by its augmented growth.

We have therefore in this case both positive and negative evidence in support of the view that the change in the color of this patient's hair was due to the pilocarpin.

This case has been one of unusual interest, and in closing the report it will be profitable to recapitulate briefly the points worthy of note.

1. The prolonged period of total suppression of urine. In one instance this extended over eleven days, and for twenty-one days the anuria might have been almost considered total, the daily average being less than one teaspoonful.

2. The value of the pilocarpin in eliminating urea from the system and averting the consequences of uræmic poisoning. The usefulness of this drug in uræmia and in the various forms of dropsy is coming to be well known, but it seldom happens that its beneficial effects are so strongly marked as in this case. The uræmia was extreme, and the case at one time so apparently hopeless that it became a serious question whether we were justified in pursuing a course of treatment so distressing to the patient. Dr. Bartholow says of pyelo-nephritis, "When uræmic symptoms occur, the duration is measured by weeks, and but one termination is possible." (Pract. Med., p. 469.)

In this case much of the success of the treatment was undoubtedly due to the patient herself. She is of a bright, sunny disposition, and has been upheld throughout her illness by a positive determination *not to die*, and she seconded most faithfully the efforts of her physician in her behalf.

3. The amount of fluid eliminated during a "sweat." I have hesitated to state the amount (fourteen pounds), which is about one-seventh of the body-weight, because it seems almost incredible; but a careful reconsideration satisfies me that the statement is not exaggerated. I think it probable that the amount was increased by the hot-bottle pack.

4. The effects produced in this case by the pilocarpin upon the stomach and bowels would indicate that it excites a watery discharge from their mucous membranes as well as from the skin and salivary glands.

5. The hypodermic use of pilocarpin. The hydrochlorate is perfectly soluble, and its use under the skin is unattended with pain or irritation. Its action hypodermically is more prompt and the effects are sooner over than when it is administered by the stomach. It has been recently stated that the jaborandi contains another alkaloid, jaborin, which is antagonistic to pilocarpin. If this be true, it is decidedly preferable to use the pilocarpin rather than the leaves.

6. The change in the color of the hair. If I have properly attributed this to the action of the medicine, it would seem to add another to the marvellous effects of this agent upon the human system.

7. There was no dropsy in this case. In two other cases of pyelo-nephritis occurring in my practice which resulted fatally there was no dropsy. Uræmia, or rather anuria, is not sufficient to cause dropsy, but combined with a drain of albumen (albuminuria) dropsy soon results.

AIDS TO DIAGNOSIS IN NASAL DISEASE.

Read before the Philadelphia County Medical Society, April 13, 1881,

BY HARRISON ALLEN, M.D.

IN making a diagnosis of nasal disease considerable difficulty is acknowledged. The nasal chambers are intricate in their outlines, the apertures permitting inspection are small, and the various structures seen therethrough are foreshortened to the eye.

TO EXAMINE THE NASAL CHAMBERS.

The following rules have been framed with the object in view of simplifying the examination and to properly interpret what is seen.

1st. Bring the shoulders forward and throw the head far back. Insert the speculum. The under surface of the middle turbinated bone will be seen at its anterior part, provided no undue narrowing of the chamber exists. In the same position, inspect the chink between the anterior end of the middle turbinated bone and the outer wall of the vestibule.* Make such use of the probe as may be indicated to ascertain the condition of the mucous membrane, and the nature of the points of contact (if such should exist) between the median and lateral walls.

2d. The shoulders to be in the same position as in the preceding. The speculum being in place, bring the head slightly forward. The middle turbinated bone now passes from the field, and the ethmo-vomerine sutural projection, if such exists, becomes visible. When it is present, the posterior portion of the middle turbinated bone, the ethmo-vomerine projection, and the superior curved portion of the inferior turbinated bone are occasionally seen to be in contact with one another. No obstruction to breathing need follow upon this arrangement, provided the inferior portion of the chamber remains open. In other examples, the parts just mentioned are separated from one another when a black curvilinear chink exists between the inferior turbinated bone and the septum. If this chink does not exist, by reason of the pressure of the sides against one another, distress is very apt to be acknowledged. During treatment the chink can be defined at the time the patient reports improvement. In yet another group of nasal chambers the parts in question are remote from one another, and the lower portion of the wall of the sphenoid sinus is seen, together with the upper portion of the choana.

3d. The shoulders still being forward, the head is brought in a horizontal position. The space between the sides of the inferior turbinated bone and the septum is now seen through the speculum. If the chamber is capacious, and the anterior osseous aperture large, the plane of the opening of the inferior meatus is visible and situate about half-way up the outer side of the field. If, however, the parts are everywhere contracted, the plane of the inferior meatus-orifice is not seen, or, if it is seen, its upper portion only is discernible.

Such inspection as is practicable of the middle meatus can be made either in the second or third positions.

4th. Preserving the forward position of the shoulders, as before, bring the head well down on the chest. Insert a small-calibred speculum and push it as far inward to the lower portion of the anterior osseous aperture as is possible. The floor of the nasal chamber is now seen at its anterior part. The chink between the anterior end of the inferior turbinated bone and the floor, and the floor of the vestibule itself, are all visible. This field is frequently obstructed by an outgrowth from the septum, either maxillary or vomerine in nature. Should hypertrophy of the inferior turbinated bone exist, the chink between the bone and the floor of the nose is obliterated.

TO DETECT THE SIGNIFICANCE OF TRACTION-BANDS.

The history of recurrent obstruction from angiose turgescence can be confirmed by the presence of cobweb-like threads of mucus stretching across the chamber from the lateral to the median wall. The following explanation is ventured upon: the surfaces once in contact have separated, but give evidence of their former position by these traction-bands.

TO DETECT OBSTRUCTION.

Close the mouth and the nose of the opposite side; then bring the shoulders forward and throw the head back. Request the patient to breathe. If the sound is sniffling, especially if the act be associated with adduction of the lateral wall of the external nose above the wing, obstruction exists. Then insert Zaufal's speculum in the premaxillary portion of the nose. Re-

* By vestibule is meant the interior of the external nose.

peat the breathing-test. If the sniffling is now relieved, obstruction of the vestibule or the premaxillary region may be diagnosed. Should the sniffling persist, push the speculum into the maxillary portion, and in succession to the palatal, renewing the test of breathing in each instance; or, the small rubber speculum being in position, raise suspicious folds of mucous membrane with a probe and request the patient to breathe. Such improvement of breathing after thus pressing aside the turgescent folds furnishes a clue to the nature and location of the obstruction. The presence of mucus in the nasal chamber can be detected by its motion forward and backward during respiration, when conducted in the manner above described.

TO PREPARE A NASAL CHAMBER FOR EXAMINATION WHERE GREAT NARROWING EXISTS FROM CONGESTION OF THE MEMBRANES.

Apply a primary current of electricity from two to six cells. The cathode should be placed over the cheek below the infra-orbital foramen, and the anode on the nape of the neck or at the mastoid fossa. After the current has passed for five minutes the patient will announce the fact that the obstruction is relieved. Inspection can now be made of the deeper parts with ease. Should the obstruction not yield to this test, a diagnosis of infiltration of the tissues may be made. An excessively angiose condition of the membranes accompanied with hyperæsthesia is rarely seen, which will not yield to the current. These applications are not only aids to diagnosis, but are often in themselves curative. Obstruction not due to turgescence or infiltration may be proved to be osseous by the probe.

TO DETERMINE THE CONDITION OF THE MEMBRANES BY THE REFLECTION OF LIGHT THEREFROM.

A moist surface yields a broad, brilliant reflection. A dry one yields a diffused, dull reflection, which at the same time that it is diffused is broken up into minute points of light.

A mammillated moist surface will throw off multiple reflections, but a uniformly convex surface will throw a single large pencil of light.

TO EXAMINE THE CELLS OF THE NASAL MUCOUS MEMBRANE.

A double angulated probe passed into the normally constituted space between the lower turbinated bone and the septum, and drawn forward at the same time that it is pressed firmly against one of the sides, can be withdrawn, bringing with it a drop of the mucus of the region through which it has passed. This drop, when examined with the microscope, will show characteristic epithelial cells, with active cilia. The cells are deformed in outline, without cilia, and otherwise changed, in mild forms of atrophic degeneration of the turbinated bones,—deformed, without cilia, and excessively granulated in the infiltration of syphilis,—or absent in angiose turgescence and in advanced forms of atrophic degeneration. Angiose turgescence exists in hay fever and some forms of catarrh, associated with hyperæsthesia, simulating hay fever. In such diseases the cells are not easily detached, and cannot be found in the mucus.

For clinical purposes the nasal region may be divided into the premaxillary, the maxillary, and the palatal portion. If sections be made by sawing the skull in frontal (transverse vertical) planes at the lines of sutural union on the hard palate, viz., between the premaxillæ and the maxillæ, and between the maxillæ and the palatal bones, subdivisions of the nasal chamber are secured which embrace more or less natural regions. The premaxillary portion includes the vestibule and the nasal chambers proper, so far as to embrace the anterior ends of the turbinated bones. The upward extension of the section would answer to the anterior border of the anterior cerebral fossa. The maxillary portion includes the turbinated bones within the point last mentioned and the hinder ends. The palatal portion includes the hinder ends of the turbinated bones and the region extending thence to the posterior nares.

SEQUEL TO THE CASE OF ARSENICAL PARALYSIS

DETAILED IN A CLINICAL LECTURE ON ARSENICAL PARALYSIS PUBLISHED IN THE PHILADELPHIA MEDICAL TIMES, MARCH 26, 1881,

BY J. M. DA COSTA, M.D.

JUDGING from the communications that have reached me, the lecture on arsenical paralysis and the case therein reported have proved of interest to many physicians. I believe, therefore, that it may not be unacceptable to record the sequel to the case. It is easily told. It was one of steady improvement, suspended

for a time by the ulceration around the toes, particularly the great toes, which proved to be due to ingrowing toe-nails. When these were remedied, the patient began to walk around again, though the enforced confinement which the discomfort in his locomotion had entailed put him back for three weeks, and on getting up his walking was less easy than formerly, owing to a contraction of the tendo Achillis of both legs; but this yielded to massage, and the favorable progress of his symptoms was unchecked by further mishaps. The erythematous rash on the soles of the feet lasted but a few days, and passed off when the acetate of potassium was substituted for the iodide, and under an ointment of oxide of zinc. With but slight variations, his treatment consisted, during the last months in the hospital, of iodide of potassium and cod-liver oil; faradization and massage were also used. There never was a drawback in the amelioration of his mental condition after it had once fairly set in; the state of his legs improved up to the point that he could walk around with a cane, but there was still considerable palsy, especially in the muscles of the anterior tibio-fibular region, and their electro-muscular contractility remained much impaired. It was in this condition, but in very good general health, that he left the hospital on the 6th of May. I will add that during the period in which I had charge of him, and subsequently while under the care of my colleagues, he never had the least sign that pointed to a syphilitic infection; indeed, neither sore throat, nor enlargement of the post-cervical or inguinal glands, nor falling of the hair, nor node, nor bone-pain, nor substernal tenderness, nor specific eruption, was at any time to be found; enabling the repetition of the statement made in the lecture-room, that he had never had secondary symptoms.

In this connection, too, it may be proper to add that a fuller knowledge of the case makes me question whether he ever had syphilis at all, even of a non-infecting kind. The history of syphilis was obtained on his admission to the hospital, but, owing to his wretched mental condition, would not have been accepted at all if it had not been corroborated by his friends. Yet, as he regained his mental health, he repeatedly said that he had been told, while under care outside, that he would not have syphilitic symptoms; and on inquiry from Dr. Walter F. Altee, who had attended him, the fact was elicited that it was in May, 1880, and not in September of the preceding year, that the patient had had a violent gonorrhœa, followed by balanitis and a few superficial ulcers on the glans, and by a suppurating bubo in the left groin. This distinguished surgeon did not believe the phenomena to be syphilitic, and not under any circumstances those of an infecting chancre: hence his remark to him that constitutional symptoms would not ensue. It may not be without interest to state that Dr. Atlee has seen him repeatedly take large pinches of arsenic—probably from five to ten grains—out of a paper carried in his vest-pocket.

On another point, too, of the early part of the case, I now possess additional information. While still under the influence of the acute poisoning, and before I saw him, an erythematous eruption was perceived on the chest and abdomen, as mentioned in the published lecture-notes. I had supposed it to be one of the forms of eruption which we all know occur at times in arsenical poisoning; and this it evidently was. I have acertained it from those who saw it to have been an erythematous flush chiefly occupying the front of the chest, here and there slightly raised, as if the skin were swollen, having on the outskirts of the large patches smaller spots like roseola, but all of vividly red color, and occurring in three successive outbreaks, the skin becoming of normal appearance between them. The longest of these outbreaks was the first; it lasted six days, was attended with considerable itching, or, rather, burning, and followed by slight desquamation. The other outbreaks were from three to four days, and presented the same phenomena, although not quite so marked. The patient was not at the time taking iodide of potassium, or, indeed, any specific treatment. The character of the eruption impresses me very much like the disseminated patches in connection with a papular eruption described by Imbert-Gourbeyre as due to arsenic.

Re-examinations of the urine never showed anything abnormal. I regret that it was not examined for arsenic. But I do not think that, except early in the case, arsenic would have been found in the urine. I learn from a quite recently published instance of arsenic-poisoning followed by paralysis, by Seeligmüller, in the

Deutsche Medicinische Wochenschrift, April 16, 1881, that even in a very pronounced instance it may not be detected. The gums always showed the same appearance; they never presented any metallic line, but always a burnished, porcelain-like look, similar to the gums of false teeth.

Since the patient has left the hospital, I have seen him several times, once within a few days. He has stopped the iodide for over a month, and is taking tonics, chiefly of pyrophosphate of iron and of strychnia. He is constantly improving in strength, and walks a couple of miles daily. He has pain in his feet after walking, and for a time in his limbs, but only then if the exercise has been too severe for him. He walks aided by his cane, although not dependent on it, and with the shuffling gait of a paraplegic. He can stand and walk with his eyes shut, although with greater difficulty than when they are open. It is not likely that he will improve very much more: he has probably almost reached the highest point of his recovery.

A NEW HYGIENIC APPLIANCE.

Remarks before the Philadelphia County Medical Society, Wednesday, March 23, 1881,

BY BENJAMIN LEE, A.M., M.D.

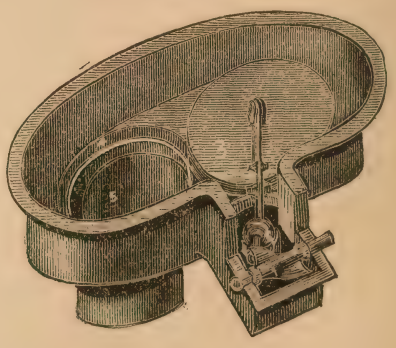
AFTER the eloquent lecture from Dr. Wood to which we have been listening, and the extremely interesting discussion which has followed it, I fear that to many of you the descent to the consideration of a water-closet will seem the step from the sublime to the ridiculous. With the Roman philosopher, however, I say, "*Humani nihil a me alienum puto.*" I hold nothing which concerns the comfort and welfare of the human being foreign to the province of the physician.

Independently of leakage, sewer-gas enters our homes in three ways. The water-seal of the trap of the water-closet, stationary wash-stand or wash-tub, or bath, as the case may be, may become inefficient, 1st, in consequence of the water falling below the protective level from evaporation, when the appliance is for some time unused; 2d, from what is called siphoning,—that is, the production of a vacuum in the soil-pipe by the sudden rush of water from a closet on a higher level, which sucks out the water from the trap; and finally, in consequence of saturation,—that is to say, the water slowly absorbs the gas in contact with its sewer surface until it becomes entirely saturated: as soon as this has taken place it begins to give it off at its closet or basin surface as rapidly as it receives it at the other.

This last is perhaps the most dangerous, because the most insidious, form in which the poison finds access to our homes. It is that which takes place all through the night from the wash-stand which is by our bedside, or the bath-tub in the adjoining dressing-room, while the water-closet is more apt to be in a distant part of the house and quite distinct from sleeping-apartments. The appliance to which I now call your attention affords a complete remedy for this evil as long as it is in position. During the brief time in which the closet is in use it is not operative; our protection then must be in the water-trap, which still exists below this, and in ventilation. And I would here briefly say, in passing, that thorough ventilation is a *sine quâ non* in sanitary plumbing. No system of plumbing should now be introduced into any house which does not include a ventilating shaft as large as the soil-pipe, having its top above the roof of the house, and running, if possible, along the smoke-stack, so that the heat thus communicated may create an upward draft.

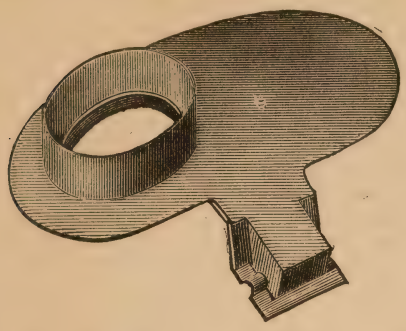
With the aid of this model I think you will have no difficulty in understanding the contrivance, which is simple and not easily disarranged, although, at the same time, a very beautiful piece of mechanism.

The hole which you observe in this metal casting is just the size of the top of



the soil-pipe, and is continuous with it, being below the hopper and above the water-trap. Around the edge of this hole and on the upper surface of the casting is a trough about three-fourths of an inch deep. This movable cap which I now

show you is provided with a flange on its under surface exactly corresponding to the



trough. Now, it will readily be understood that so long as this flanged cap sits in a fluid in the trough, provided this fluid is impervious to gases, so long is the passage of gas beyond it a physical impossibility. Such a fluid we find in mercury. It cannot evaporate; it is too heavy to be siphoned out; and it does not absorb gases. Its loss from oxidation is so slight as to be almost imperceptible. This cap is moved on and off from the opening of the soil-pipe by means of an ingenious contrivance known as "Spratt's Movement," in which the opposite end of the lever which is attached to its upper surface articulates, as you see, by means of this spherical head with a deep spiral groove on a horizontal shaft. This shaft is attached by a sort of crank-rod to the cover of the seat. Now, as I lift the cover I also lift the cap and throw it to one side in a chamber provided for the purpose; as I shut down the cover I replace the cap, and the seal is perfect. This appliance can be adjusted to any water-closet of whatever description. In case of there not being sufficient thickness of joist to allow of its being set under the floor, the seat must be proportionately raised,—say about three inches. This slight inconvenience can be met by placing a low step in front of the seat.

So much for the water-closet. I now show you the seal for the wash-stand and similar arrangements. It is made of glass, so that if out of order the fact can be detected in a moment. It consists of a cylindrical glass reservoir closed at the top and admitting the waste-pipe through its bottom. The waste-pipe ascends to within about two-fifths of the distance from the top, terminating in a free extremity; over this free extremity sits quite loosely a glass cup like a small tumbler turned upside-down. At about the level of the free extremity of the waste-pipe there is a hole in the side of the reservoir for the escape of the water.

As in the case of the water-closet seal, mercury is again used as the sealing fluid. Here it covers the bottom of the reservoir to a depth of half an inch or more. The working of the appliance is as follows. When a stream of water enters from below, it lifts the inverted glass cup out of the mercury, as I now lift it with this penholder. Flowing out under the rim of the cup and over the surface of the mercury, it fills the reservoir and escapes at the opening in its side. The moment the current ceases, the cup falls back into its place, and should there be any reflux of gas it exerts its pressure on the top of the cup, thus firmly holding it in the mercury and adding to the security of the seal.*

STRANGULATED FEMORAL HERNIA—OPERATION—BOWEL RUPTURED—DEATH.

BY CHARLES W. DULLES, M.D.,

Surgical Registrar to the Hospital of the University of Pennsylvania.

ON May 14, 1880, I was called to see Mrs. A., aged 87 years, an inmate of the Philadelphia Home for Incurables. She had been admitted to the Home more than two years before with an incurable chronic rheumatism and chronic bronchitis. Her hands presented a remarkable and extreme picture of the effects of arthritis deformans, the fingers being abducted and flexed until they overlapped each other like the claws of a fowl, and it was necessary for her to have a piece of linen pushed under them to prevent excoriation of their skin and that of the palms.

When called to see her, her case had not been deemed very urgent by her care-takers at the Home. She had, however, had persistent constipation and vomiting for about thirty-six hours, and complained of colicky pains in the abdomen. On examining her, I found that she had a strangulated left femoral hernia. The account I obtained of the condition of the parts previous to this attack was uncertain, but left no doubt in my mind that the hernia was comparatively recent. The tumor was red, inflamed, œdematous, and very pain-

* These appliances are designated as the "Evans Sewer-Gas Mercury Seal," and may be inspected at 239 South Sixth Street.

ful, half spindle-shaped, about three inches long and half an inch in elevation, and lying just below and parallel with Poupart's ligament. The persistent vomiting, the pains, and my inability to reduce the tumor by moderate taxis, brought me to the conclusion that the case demanded operation. I then secured the advice and co-operation of Drs. Keen and Judd, and Messrs. Griffith and Jayne,—office students of the former,—and, ether having been administered, made another effort to reduce the bowel, seconded by Dr. Keen, and, this failing, proceeded to operate, under the carbolic acid spray, in the method of Lister. The tissues were divided down to the sac, and an attempt made to reduce *en masse*. In doing this the sac was burst, and a very small quantity of fluid with a fecal odor escaped. Very soon, however, the bowel receded within the abdomen, and the wound was cleaned, sponged out, and closed. A few strands of carbolized silk were laid below the sutures, so as to depend from the lower angle and effect drainage. Over all were placed the antiseptic layers recommended by Lister. The ether was suspended, and brandy, milk, and lime-water ordered to be given by the mouth at short intervals.

The vomiting did not return after the operation, but the patient never rallied. She recovered consciousness, and had little suffering, but steadily sank, until she died the next afternoon, twenty hours after the operation.

The next day a post-mortem examination was made. On opening the abdomen, no evidence whatever of recent peritonitis was found, except about the internal opening of the femoral canal, to which a transverse coil of the ileum and a fold of the omentum were slightly adherent. On pulling the intestine away, it was seen that a knuckle about an inch and a half long had lain across the opening of the femoral canal, into which a part of one side only had been pushed and tightly strangulated in such a manner as almost entirely to occlude its lumen previous to the operation. The hernial portion was discolored and gangrenous-looking, and in it there was a small opening, which Dr. Keen thought to have been made in separating it from its adhesions at the autopsy.

I removed a portion of the intestine about three inches long, and took it away for subsequent and more detailed examination.

On making this, I found the bulging portion that had descended and been strangulated was in parts thick and congested; at its lower curve, however, it was very much thinned in several places, and had two small openings. One of these may well have occurred at the autopsy in breaking up the recent peritonitic adhesions; but the other, I am inclined to think, had occurred before the operation, because its edges were too abrupt and too well defined to seem to me like tears. The impression that suggested itself to me when operating, on account of the odor that was emitted when the sac gave way,—namely, that the bowel had been loaded and burst by the effort to reduce it,—remains with me. Yet, as already stated, there were found at the autopsy no evidences of the escape of any fecal matter into the abdominal cavity, nor any inflammation,—only a little lymph, causing the bowel to adhere to the edges of the femoral ring. The patient's death seems to have been due to the fact that her great age and her chronic invalidism made it impossible for her to survive the depression due to thirty-six hours' strangulation of the intestine, with the added strain of a grave surgical operation.

April, 1881.—The specimen showing the rents in the intestine I gave to Dr. Formad, who made sections of them and examined them microscopically. He informs me that the openings presented no evidence of ulceration, but were undoubtedly traumatic, being simple ragged solutions of continuity.

I am therefore convinced that I was right in believing that the bowel was burst during the operation, in the effort to reduce it after the sac had been opened. No very great force was used, but certainly too much for the resistance of the thin, old intestine.

Some years ago I assisted at the first operation for strangulated hernia that I ever saw, and I well remember the solicitude with which I watched the force used by the operator in reducing the gut. At a later period I was called, in the ambulance service of the Philadelphia Hospital, to a man who had been stabbed in the abdomen, and from whose belly a few inches of intestine had protruded. What I considered reasonable efforts to reduce it being unsuccessful at the place where I found him, I kept the bowel wet and transported him to the hospital. Here he fell into the hands of another resident surgeon, whose violent efforts I thought would surely burst the bowel; but, to my surprise and relief, they only sent it back to its proper place, and the patient made a good recovery.

These cases gave me an idea of the toughness of the bowel which I could not otherwise have entertained. They did not lead me to employ any unusual force in the operation I have just narrated, but they heightened my surprise at its result. The moral, it appears to me, is that in an old person scarcely any force can be called safe, and that the freest possible opening should be made before any attempt to reduce a hernia that has been strangulated.

NOTES OF HOSPITAL PRACTICE.

LOUISVILLE CITY HOSPITAL.

CLINICAL LECTURE BY WM. H. WATHEN, M.D., OF THE KENTUCKY SCHOOL OF MEDICINE.

Reported by A. H. Kelch, M.D.

LACERATION OF THE CERVIX UTERI.

GENTLEMEN,—This woman says she is 28 years old, the mother of four children, and that she has had good health until the birth of her last child, four years ago. Since then she has never been well. Her bowels are constipated, her appetite poor, her digestion and assimilation much impaired. She is pale, anæmic, and extremely nervous; her menses have not returned since parturition, but were always regular and normal before. She has been confined to bed most of the time, and has seldom been able to take active exercise. She has had pain and soreness in the iliac regions (worse in the left), a sense of weight and pressure in the pelvis, and a constant, profuse, and tenacious leucorrhœal discharge. She has sympathetic disturbance of the heart, and complains of pains in her head, back, and limbs.

These subjective symptoms are diagnostic of some uterine trouble, but are common to many uterine diseases, and are pathognomonic of none. They do not enable us to arrive at any positive diagnosis, but indicate the necessity for a physical examination by which we may avail ourselves of the more reliable objective symptoms. In a digital examination I find the uterus prolapsed and apparently retroverted, and the cervix lacerated on the left side up to the vaginal junction. . . . Having exposed the cervix with a bivalve speculum, we see that both lips, particularly the posterior, are enlarged, and that the mucous membrane in and around the os is inflamed. The laceration is seen to be nearly healed over. The sound shows that the uterus is completely retroverted, and it causes pain when I press the point against its walls. The cavity measures three and a half inches, and since withdrawing the sound there is some bleeding from the os. There are no adhesions binding the uterus down, and it can be placed in its normal position by rotating the sound. We now recognize laceration of the cervix, retroversion, and chronic endometritis; but we must know more about the cause and results of these troubles and the relation one bears to another before we are prepared to adopt a plan of treatment. From our own experience and the researches of Emmett, Goodell, and other authorities on this subject, we conclude that the cervix was lacerated at the last labor, and failure to unite prevented healthy involution, causing permanent enlargement of the uterus, with its natural consequences, inflammation and displacement. This laceration is easily recognized by the finger and by sight; but there are cases where the diagnosis is made with difficulty even by experienced gynæcologists and not at all by the general practitioner, who often knows very little about this subject and treats such patients with strong caustic applications for simple cancroid or cancerous ulceration of the cervix. That laceration does frequently occur in labor, and often remains as a permanent lesion, is now pretty generally recognized and understood in gynæcological circles. Emmett discovered the character and the treatment of this lesion in 1862, and published his first paper on the subject in 1869. Since then, in his papers and in his work on gynæcology, he has told us about all that is known on the subject. Dr. William Goodell and many other writers have added valuable papers.

This injury is caused by labor, and may occur in any part of the rim of the os uteri, but is generally on the left side, which is explained by the fact that the occiput is usually in that position. The lesion may extend only partly through the walls of the cervix, or through its entire thickness, and sometimes from the os to and above the vaginal attachment. It may be lateral or bilateral, in either lip or through the conjugate diameter. The lacerations may also be numerous and give the cervix a stellate appearance. There is, perhaps, some laceration in nearly all cases of labor, particularly in the primipara, but it is usually so insignificant that it causes no inconvenience, and disappears in the course of a few weeks. In those cases where the laceration is extensive it is generally the result of rapid labor, early rupture of the membranes, the administration of ergot, and the use of forceps before the cervix is fully dilated. It may also be caused by a tedious and protracted labor, or by an attempt to push the anterior rim of the cervix over the presenting parts.

Rigidity of the os from any cause would predispose to this danger. Hemorrhage is the only immediate symptom that attends the lesion. The cervix is so bruised and swollen that the rent cannot easily be discovered soon after labor: however, if there is constant bleeding after the uterus is well contracted, such an injury may be suspected. Although the rent may extend above the vaginal attachment, the bleeding is seldom alarming, for the utero-cervical artery is so elastic and tortuous and so loosely connected with the parts that it will stretch and thus escape being ruptured. If the laceration is in such a position that the edges are kept in apposition, there will often be union by first intention or adhesion. If the rent is in either lip, or through both, it will generally unite, as the line of division is within the axis of the greatest uterine mobility, and the lateral walls of the vagina will press the edges together. But if the laceration is lateral or bilateral, the division is transverse to the axis of motion, and the vaginal walls give no support. Besides, when the woman gets out of bed the uterus is larger, and its downward pressure causes the vaginal walls to separate the lips and keep them permanently everted so that union is impossible. Even if union does occur while the woman is in bed, the edges will be likely to separate when she assumes the erect posture. If the rent extends above the vaginal attachment or fails to unite by adhesion, there is frequently some pelvic cellulitis or peritonitis developed from the third to the fifth day, the symptoms of which are generally well marked, but may be so masked that the complication would not be detected without a careful physical examination. In such cases convalescence is slow, and the uterus is often permanently displaced and bound down by adhesions. In any event, it requires a long time for absorption of the inflammatory products, and the woman may be a cripple for life.

The triple process of involution—contraction, conversion of superfluous tissue into granular fat, and absorption—is interrupted, and the uterus remains permanently enlarged, causing displacement and inflammation, with a profuse leucorrhœal discharge, and the various local and reflex disturbances that accompany these disorders. The injury may cause but little annoyance until menstruation reappears, for during lactation the blood is attracted to the mammary glands and there is no periodic congestion of the uterus and pelvic organs.

When the laceration has healed over, there may be no symptom that attracts attention unless a nerve be imprisoned and pinched in dense cicatricial tissue and serves as a constant source of irritation, keeping the patient fretful and nervous; failing to heal, the lips become everted, exposing the intra-cervical mucous membrane, which by constant attrition against the vaginal walls and by direct exposure to violence in coition gradually loses its epithelium and is eroded or ulcerated. There may also be follicular, villous, or coxcomb ulceration, and the cervix occasionally has the appearance of the cauliflower excrescence of epithelioma. Subinvolution causes retroversion and prolapsus, puts the uterus within the axis of the vagina, and subjects the cervix to direct injury in coition. The woman becomes a confirmed invalid, and is generally sterile, but may conceive in the worst forms: if so, there is a tendency to abortion, on account of the constant irritation of the cervix and its weak retentive powers. The laceration may be so extensive and the mucous membrane so everted that the canal is exposed to the internal os.

Writers variously estimate the frequency of this injury in all uterine diseases at from five to forty per cent. I have met with a great many of these cases in private and hospital practice, and would put the estimate at fifteen per cent. There is no difficulty in making the diagnosis by the finger or by sight when the laceration has healed over. If the rent is bilateral the finger will detect a transverse fissure, and if lateral a notch in the side. With the cervix exposed the transverse fissure or the notch may be seen. But when the cervical mucous membrane is eroded or ulcerated the diagnosis may be difficult, and the true nature of the malady be entirely overlooked. This condition, or follicular enlargement, frequently causes an ectropium like that of the conjunctiva, and conceals the rent so perfectly that it cannot be felt or seen. But if the woman's bad health dates from the time of her last labor, and she has a profuse and tough leucorrhœal discharge with the cervix apparently eroded or inflamed around the os, which fails to improve under treatment or heals

over and seems to be well but again loses its epithelium when she begins taking exercise or having connection, you may suspect laceration. Though the everted mucous membrane often fills up the cavity between the curled-over lips, making it impossible to detect the rent by the finger or by the sight alone, still with proper care the diagnosis can be accurately made.

Place the woman in any of the recognized positions, but preferably on the knees and elbows, and dilate the vagina with a duck-bill or bivalve speculum. Then with a tenaculum introduced in the vaginal surface of each lip, attempt to bring them together, and the everted mucous membrane will gradually roll into the cervical canal, and finally nearly or entirely disappear, and what was supposed to be the external os is now found to be the opening into the cervical canal upon a level with the fork of the laceration, and is from one-quarter of an inch to an inch above the real os tincæ. I prefer the knee-elbow position because it removes abdominal pressure from off the pelvic viscera, and allows the uterus by gravitation to ascend higher into the cavity, thus enabling us to force more easily the everted membrane into the canal. The rent can now be plainly seen, and what appeared to be an ulceration around the os was the exposed and abraded mucous membrane of the cervical canal.

While many women complain of the symptoms I have mentioned, there are others who suffer very little inconvenience. Just as in some other forms of uterine diseases, what makes one woman a confirmed invalid causes another hardly any annoyance. The peculiar constitution and habits of the woman have a great deal to do with the impression the injury makes upon her system.

The treatment of laceration of the cervix uteri may be divided into the immediate and subsequent treatment; that is, the treatment indicated if the injury be discovered soon after it occurred, and when the woman applies for relief from the symptoms that secondarily result from this lesion. If the laceration is detected immediately after labor, and there is much bleeding, it should be controlled by ice, hot-water injections, injection of a saturated solution of alum, or any local hæmostatic that will not prevent immediate union. If hemorrhage is profuse and it is not arrested by this treatment, introduce a silver suture to unite the edges of the rent. Wash out the vagina once or twice daily with warm or hot water, and, if there is an offensive discharge, add some disinfectant, such as carbolic acid or permanganate of potash. If the edges do not unite, this treatment will generally cause the rent to heal over and make involution more perfect, thereby lessening the dangers of future trouble. These are the measures which constitute the immediate treatment, which, in the event of failure to accomplish the purpose towards which they are directed, are to be followed by the measures which I shall take at our next meeting to establish a complete and permanent cure.

(To be continued.)

TRANSLATIONS.

Dyspnœic Uræmia.—Dr. G. Variot (*La France Médicale*, 1881, p. 486) reports a marked case of this curious affection. A man of 21 was admitted to the hospital completely aphonic, and so dyspnœic that he was at first thought to be suffering with œdema of the glottis. His face was pale, the lips cyanosed, the respiratory movements frequent (twenty-five to thirty in the minute). The patient was torpid and apathetic, so that a history was difficult to obtain, but it was ascertained that he had had some throat-trouble for two or three weeks, and had lost his voice gradually during the preceding week. For two days he had suffered intense oppression. He had no cough, but occasionally spat a little blood.

Physical examination showed the patient of good figure and weight. The chest gave a sonorous percussion-note. Auscultation revealed sonorous râles over the upper portion of the lungs, with more confluent subcrepitant râles over the base of the left side. These signs, however, were not at all in proportion to the subasphyxiated condition of the patient. Auscultation also showed that the difficulty in respiration did not result from any laryngeal obstacle, for the vesicular murmur was perceptible from summit to base on both sides. The cardiac movement was tumultuous; there was no abnormal murmur; the pulse beat 130, and was small; temperature, 98.6° Fahr. Examination of the urine showed absence of albumen and sugar. Laryngoscopic examination showed

slight inflammation of the vocal cords, with some anæsthesia, accounting for the aphonia; the cause of the dyspnœa, however, remained obscure.

Uræmic dyspnœa was suspected, but the complete absence of albumen from the urine and of lowering of temperature pointed away from this diagnosis. The prognosis, however, was evidently grave. In fact, the patient sank rapidly; the respiration became more and more embarrassed. The evening after his admission the patient lost consciousness; the respirations became slower (seven to eight per minute), with long intervals. He died towards morning.

The autopsy showed both kidneys sclerosed, small, granular, and pale. The capsule was extremely adherent; there were no cysts. The cortical substance was reduced to a thickness of one and a half millimetres. The histological examination showed the well-known signs of interstitial nephritis; the tubules had, for the most part, disappeared in the cortical substance, and the sclerosed glomeruli were piled one above the other. The arteries were affected by endarteriïtis; some were calcified. The right heart was hypertrophied. The lungs were adherent with some little tubercular deposit, with a few caseous foci. All the bronchi were extremely congested and almost filled with reddish serous fluid of a frothy character. The vocal cords were congested, but did not explain the dyspnœa; they were not ulcerated. The urine examined after death gave a specific gravity of 1014°.

Secondary Syphilitic Laryngitis.—A recent number of the *Centralblatt für Chirurgie* (1881, p. 214) reviews a recent monograph by Gouguenheim, giving the following points of interest. Gouguenheim considers these affections very common. He has met with one hundred and nine cases in two hundred and seventy-five syphilitic individuals,—two-fifths of all cases. The trouble usually begins in the first six months of syphilis. Total and partial laryngeal affections are observed. General laryngitis is often found in connection with hyperplasiæ, which then attack the epiglottis in particular; more rarely the arytenoid region and the true vocal cords; most rarely the false vocal cords. Partial laryngitis shows the same frequency. Mucous patches, the occurrence of which within the larynx has been denied by authors, have frequently been observed, chiefly upon the epiglottis. Usually, in addition to the laryngeal syphilis, mucous patches are found in the mouth and throat, and on the vulva and anus; rarely skin-troubles alone. Patients in Gouguenheim's experience are young,—between eighteen and twenty-five. In advanced forms of syphilis a general hyperplasia is sometimes met with as an intermediate symptom between the secondary and tertiary laryngeal syphilis, which sometimes may assume very considerable dimensions. In earlier stages ulcerative erosions are frequently found, and these are seated on infiltrated surfaces or more rarely on circumscribed papules. Their usual locality is upon the epiglottis, especially upon its free border. On account of the elevation of the papule on which these erosions are situated, they often seem more deeply excavated than in reality they are. The true vocal cords are reddened, frequently cylindrically swollen, and maculated on the surface. Occasionally pin-head-sized whitish bodies are seen, which are supposed to be mucous patches. Now and then ulceration of the vocal cords is observed. Disturbance of phonation is very uncommon; and this is probably the reason why the affection is so frequently overlooked. Hoarseness only occurs when the true vocal cords are involved. Deglutition is rarely disturbed. Under appropriate treatment the affection lasts from two to eight weeks, rarely longer. Relapses are common, especially when the treatment is of too short continuance or under bad hygienic circumstances. The prognosis is favorable, provided decided hypertrophy has not taken place. The diagnosis is aided by the simultaneous occurrence of eruptions on the skin and mucous membrane. Treatment should be local and general. Gouguenheim gives bichloride of mercury to the amount of 1/6 to 3/4 grain, or the biniodide to the amount of 1/2 to 1 1/4 grains daily, or he orders inunctions. The latter are useful to the amount of a drachm or more, rubbed in twice daily. Locally, the nitrate of silver stick, or a ten per cent. solution, may be applied, or a four to five per cent. solution to the larynx.

Calculus in the Scrotum—Scrotal Lithotomy.—A. Lippomann (*Cbl. f. Chir.*, 1881, p. 256; from *Wratsch. Wedomosti*) gives the case of a man of 68, who, fifteen years previously, had suffered with gradu-

ally progressive stoppage of urine. His physician at that time performed an operation, removing a calculus weighing about four ounces. The wound made by the operation healed slowly and not completely, so that a fistula remained in front of the scrotum, at the root of the penis. The patient urinated through this instead of the urethra, and was obliged to use a small catheter to prevent excoriation. There was no incontinence. For some years the patient continued to feel well, but gradually urination through the fistula became more and more difficult, the scrotum became hard and increased in size, and he was finally obliged to seek the hospital.

On examination, Lippomann found the urethra impermeable to instruments, an obstacle being found in front of the symphysis pubis. The scrotum was enlarged to the size of an infant's head, and filled with a hard body. The testicles were pressed up against the inguinal rings, and could be made out only with difficulty, on account of their atrophic condition. Pus issued from the fistula, and a catheter introduced into it touched a calculus.

The patient was operated upon as follows. An incision having been made along the raphé down to the calculus, the latter was found to be made up of a number of pieces. Four separate portions were removed, weighing about ten drachms. The calculus was phosphatic, with mammillated surface, and of a grayish-yellow color; the various pieces showed facets at their point of juncture. The entire mass was about the size of a goose-egg. The operation, which was performed without anæsthetic, was well borne by the patient; the cavity was washed out with a two-per-cent. carbolic acid solution, the wound sewed up with carbolized silk, and a drainage-tube inserted. The patient made a rapid and good recovery. The fistula alone remaining unhealed served for voiding the urine, which was passed in a squatting position. The patient left the hospital in a greatly improved general condition.

Syphilis in Various Countries.—Rey (*Annales de Dermatologie et de Syphiligraphie*, 1880, p. 662) regards syphilis as at present an essentially universal disease. Two countries only in the known world are exempt,—Iceland and the interior of Africa. In Iceland the physicians say that though frequently introduced it never gains a foothold. That this is not due to climate is shown by the fact that syphilis is rife in such countries as Siberia and Greenland. According to Livingstone, the unmixed tribes of Central Africa do not have the disease, while it prevails among the mixed races. Those nations, says Rey, suffer most where syphilis is introduced for the first time, the cases being of a graver character. The symptomatology of the disease is everywhere the same, except that, of course, the color of the skin has some influence on the character of the skin-lesions. Climate is, on the whole, without essential influence. Authors are curiously at variance on this point,—some considering hot climates favorable to the course of the disease, while others take an opposite view. Facts are wanting. It seems certain, however, that hot climates are bad for Europeans who may have already contracted syphilis. In China the disease seems to run a peculiarly stubborn course. In Rey's opinion, this probably is the result of improper treatment. In high altitudes syphilis runs an unfavorable course. Warm climates appear to favor the rapid effect of treatment.

Echinococcus of the Mammary Gland.—E. Fischer (*Cbl. f. Chir.*, 1881, p. 272; from *Deutsche Zeitschrift f. Chir.*) adds another to the eighteen cases of this affection already on record. A woman 17 years of age observed a chestnut-sized growth in the right breast, which preserved the same size for three years, then beginning to grow and giving rise to pain shooting into the axilla, shoulder, and down the arm. When examined, a tumor the size of an apple was found in the breast, four or five centimetres from the nipple. Removed by an incision practised in the upper part of the breast, some fifty scolices were discovered.

After the operation, a tumor the size of a couple of hazel-nuts was found in the subcutaneous connective tissue just to the rear of the posterior axillary line, which it was found had appeared about the same time as the tumor in the breast, and had rapidly attained the size of a pigeon's egg, later becoming somewhat shrunken,—probably containing a dead echinococcus.

It is worthy of remark that the patient had experienced, some months before the development of the tumors, some pain and discomfort in the stomach, with vomiting. The termination of the wanderings

of the echinococcus probably coincided with the occurrence of these symptoms.

Suppurating Phlegmon of the Right Iliac Region—Thrombosis of the Vena Cava—Mortal Embolus of the Right Cardiac Cavity.—Rendu (*Cbl. f. Chir.*, 1881, p. 207; from a French source) gives the case of a patient who showed symptoms of an inflammatory affection of the right iliac fossa. It could not be ascertained whether this was due to an affection of the psoas or of the subperitoneal connective tissue. Disease of the vertebræ could be excluded. After incision and drainage of the phlegmon, improvement took place, which, however, after three days, was followed by marked febrile symptoms, vomiting, dyspnœa, violent cardiac action, and death. The autopsy showed the absence of peritonitis, and the presence of numerous recent and altered clots in the vena cava inferior, without anything else abnormal being found in the vessel itself or in its branches. Clots were found to have been carried from the vena cava to the right heart, so that the latter was quite filled with them. No emboli were found in the pulmonary arteries. How the vena cava became filled with clots could not be found out.

Complications of Erysipelas (*Giornale di Medicina Militare*, November, 1880; from *Gaz. Med. Ital.-Lombard.*, No. 39, October, 1880).—Dr. Carrier made the following observations during an epidemic which occurred in 1877 in the Hospital St. Eloi:

Quinsy often precedes the attack, and accompanies it throughout.

Manifestations of the erysipelatous inflammation are quite frequent in the pharynx and in the bronchial tubes, but rare in the larynx.

Pneumonia and affections of the pleura have been observed.

Pericarditis and endocarditis are not frequent,—of the two the former occurring the oftener. Myocarditis is very rare.

The writer, from these facts, draws the conclusion that erysipelas is an infectious, constitutional disease, whose action may extend to the internal organs. By preference it attacks the respiratory organs, but it may exert its influence over the central organ of circulation as well. w.

Permanent Dressings.—Dr. G. Neuber (*Cbl. f. Chir.*, 1881, p. 216; from *Archiv f. Klin. Chir.*), as the result of observations made under Esmarch at the surgical clinic of Kiel, gives the following aphorisms as a rule for the prevention of secreting wounds. 1. Close stitching of the wound; neither drainage nor openings in the skin in small superficial and smooth wounds. 2. Openings in the skin in large wounds of the soft parts, such as are situated for the most part immediately under the skin and are likely to heal by first intention within ten days. 3. Absorbable drains and simultaneous canalization in wounds which are not likely to be healed for some weeks, or which are situated deep down among the tissues or within some cavity. 4. Gum drains and simultaneous absorbable drains and canalization in wounds which from the beginning tend to heal aseptically but with suppuration.

Melœna in a New-Born Infant.—Dr. Diéterlin (*La France Méd.*, 1881, p. 513) delivered a healthy woman of an infant apparently in good condition, who passed normal meconium during the first twenty-four hours, but began to pass clotted blood at stool forty-eight hours after birth. The infant weighed three thousand two hundred and twenty grammes at birth, but lost two hundred and eighty-five grammes within four days, during most of which time he nursed well, but passed blood by stool constantly. On the fourth day death supervened. The organs were found anæmic, the intestine red and congested and filled with blood. There were no ulcers or erosions. There was no history of hæmophilia, and the cause of the hemorrhage remained obscure.

Polypus of the Ductus Choledochus—Icterus.—Pozzi (*Cbl. f. Chir.*, 1881, p. 224; from *Gaz Med. Ital.-Lombard.*) gives the case of a man of 40, whose liver was enlarged, and who showed icterus, with cerebral symptoms, dizziness, attacks of hallucination, and marked loss of flesh. After three months' sickness, the patient suddenly one day passed a large quantity of bile at stool, together with a polypus the size of a hazel-nut, the probable cause of the trouble, as no bile had passed at any previous time. The patient recovered rapidly.

Freeing Benzine from Offensive Odor.—According to Mr. Fairthorne, benzine may be freed from all offensive odor by shaking it up well with quicklime,—about three ounces to the gallon.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, JULY 2, 1881.

EDITORIAL.

WHAT WILL THE END BE?

IT would be interesting to know how many pages are added annually to the medical literature of the world. It is plain, however, that the *cacoethes scribendi* which affects so many medical men is a godsend to publishers and printers, enabling the former to revel in their palaces of stone and the latter to enjoy life in a more simple and yet perhaps no less happy manner. A few of those who furnish the "printer's devil" with medical copy get paid for their labor, but the great bulk of this in the aggregate gigantic mass of toil is either paid for not at all or with such a pittance as not to be worth naming. Nevertheless, the avalanche grows constantly. In this country alone the yearly output is by tons. Using the "Index Medicus" as a guide, we find that in the world last year eleven thousand seven hundred doctors thought they had something new to say, or some new way of saying something old. Mostly were they moved by vanity; and surely the outcome is vexation of spirit.

What the end of all this is to be is not easy to perceive. In fifty years more, if things go on, our unfortunate descendants may witness twenty thousand doctors, with vehement haste, yearly urging their pens in eager rivalry for fortune.

TREATMENT OF GOITRE BY CHLORIDE OF AMMONIUM.—Dr. Stevens has treated seven cases of goitre successfully by means of chloride of ammonium, in the dose of three grains thrice daily. Six young girls and a married woman of forty comprised the patients, and the duration of treatment was two or three months.

LEADING ARTICLES.

TENDON REFLEX.

THE curious phenomena classed under the name of "tendon reflex" have been known for a decade to physiologists and to those interested in the study of nervous diseases, but it is only within the last five or six years that their importance in the diagnosis of certain disorders has been appreciated and their general relationships with other nervous symptoms closely examined into.

An interesting review of the subject by Dr. Ollive, in the *Revue de Médecine*, considers the clinical history of the symptoms, the physiological explanation of them at present accepted, and their semeiotic value.

The so-called clonus or trembling of the foot, which is simply a sudden and rapid muscular contraction, is obtained by rapid flexure of the member, the leg being flexed or even moderately extended. The "knee phenomenon" is obtained when the patient is seated on the edge of the bed with his legs crossed and the one to be examined flexed over the other with the muscles in a state of relaxation. If then, with the edge of the hand or with a percussion-hammer, a smart tap is given to the rotular tendon just above its insertion into the tibia, the leg is observed to be suddenly raised and to fall again with each blow of the hammer, giving rise to a number of oscillations. Clonic contractions may also be produced in the knee as well as the foot by supporting the limb and percussing the ligament a number of times in succession or pressing firmly on the patella. Similar phenomena may be produced in various other tendons in different parts of the body. According to Strumpell, percussion of ligaments, of aponeuroses, and of bones likewise determines reflex contractile movements in the muscles,—an argument employed by those who deny that tendon reflex is of spinal origin.

The French theory of the origin of tendon reflex is that it is essentially spinal. The skin is not the point of departure of this reflex, for, on the one hand, it cannot be excited by irritation or blows upon the skin, and, on the other hand, if the skin is completely anæsthetized the tendon reflex can nevertheless be excited. Sachs

has shown that reflex movements can be aroused by excitation of the muscles or muscular branches of nerves. No terminal nerve-fibres are found, however, in the striated muscular fasciculi except motor fibres, the non-medullated nerve-fibres terminating in aponeuroses, with which alone muscular sensibility is connected. The excitation is produced at this point, the tendon only serving as an elastic medium for the transmission of vibrations which impinge upon the minute terminations of the aponeurosis. It is for this reason that the tendon should be in a condition of partial tension.

The investigations of Schultz and Furbringer, and also those of Tschiriew, have demonstrated that the "knee phenomenon" cannot be produced after section of the corresponding crural nerve, and that therefore the muscular succussion is not produced by direct mechanical excitation of the muscular fasciculi without the intermediation of the nerves. Not only does section of the crural nerve put an end to the "knee phenomenon," but section of the posterior roots of the sixth lumbar pair (in the rabbit), as also section of the cord between the fifth and sixth lumbar vertebræ, has the same effect. The reflex of the knee has its origin in a limited portion of the spinal cord,—namely, that from which the crural nerves take their origin. It may be perceived, therefore, that the muscles are in communication with the spinal cord by a nervous circle. This system is entirely distinct from the cutaneous nervous circle.

An important point in the study of tendon reflex is the measurement of the time required for the transmission of the impression; and this has been found by Brissaud to average fifty *millièmes* of a second.

Thus far we have considered the physiology of the "knee phenomenon" alone; but we must say a few words regarding the "foot phenomenon," which also merits attention. Considered for a long time as a reflex act produced under the influence of pathological irritability of the cord, since it does not exist in the normal condition, the "foot phenomenon" is explained by Charcot to consist in "violent alternative contractions of the flexors and extensors, and, under some circumstances, of the abductors and adductors." Why is not this epileptoid trepidation, like the "knee phenomenon," a normal incident? and why is it not produced except in those cases where the muscles are contracted? The tendinous nerves of the triceps cruralis, excited by percussion or by stretching the tendo Achillis, can, by reflex action, cause the muscles of the posterior portion of the leg to contract. The foot being extended, the tendons of the anterior portion of the leg are put on the stretch, and become, in their turn, the point of departure for the tendon reflex. Thus a true vicious circle is established, and artificial trepidation results,—clonus of the foot. This does not occur in the normal condition on account of the mode of insertion of the anterior muscles of the leg. The muscles are put upon the stretch before their tendon, and, in consequence, there does not occur any excitation of the centripetal nerves of the aponeurosis and of the tendon. In pathological conditions, however, exaggeration of muscular tension and contraction intervenes, and the terminal nerve-fibres are excited.

While the French hold the theory of the spinal origin of tendon reflex, the Germans (and Westphal among them) do not attribute tendon reflex to a reflex effect, but to a direct contraction produced by mechanical action on the tendon and muscle. Waller, a pupil of Ferrier, holds the same view. The curious fact, which at first seems to give irrefragable confirmation to the view of spinal origin (namely, that excitation of the tendon of one limb may give rise to reflex muscular contraction in the other), is disposed of by asserting that excessive contraction affects the trunk, giving rise to an apparent contraction of the other side.

The degree of intensity of the tendon reflex is the same as that of the muscular tonus,—a kind of insensible contraction, distinct from true flaccidity,—a condition of the muscle, in fact, where, as Claude Bernard has demonstrated, combustion goes on more vigorously than in the paralyzed muscle. If this muscular tonus is exaggerated, we have contraction, and in this state it is obvious that tendon reflex will be most marked. If the muscular tonus is, on the contrary, diminished, abolition of tendon reflex is observed, as in ataxy. The cord governs this tonus by the intermediation of the nerves of muscular sensibility, and the tonus itself is exaggerated not only in pathological conditions, but also by the action of strychnia.

Charcot has given to this condition the name of *spontaneous strychnism*. From this fact also is deduced the practical conclusion that it is unwise to give strychnia in hemiplegia where muscular contractility is preserved.

Türck and Bouchard have shown that paralysis following an apoplectic stroke becomes incurable only when an equally incurable lesion is developed in the spinal cord. This lesion has been shown to be situated in the antero-lateral column, particularly in the pyramidal fasciculus. The latter, as is known, is composed of all those nervous filaments which, leaving the motor convolutions of the cortex cerebri, are distributed to the various portions of the cord, and are in communication with the cells of the anterior horns. It is in a sort of great commissure established between the cerebral and medullary motor cells; and alterations which affect the motor cells of the convolutions or which suppress their communications with the pyramidal fasciculus are followed by degeneration of the latter, as if these cells played, as Huguenin supposes, the part of trophic centres. It is, in short, one of the principal excitants of the gray substance. Sclerosis of this fasciculus, therefore, must inevitably react on the cells of the anterior cornua, and exercise at that point, first, an irritative action, shown by exaggeration of the reflex and contracture. Later it may give rise to alteration of the cells, leading to paralysis, muscular atrophy, and disappearance of tendon reflex, the latter preceding and demonstrating the atrophy. The curious phenomenon of "arrest"—that is, where epileptoid spasms are controlled by movements similar to those causing the foot phenomenon above described—belongs under this head, but we cannot do more than mention it.

The foregoing remarks, necessarily somewhat extended, because the subject itself is somewhat obscure and not generally understood, except by special students of nervous diseases, may be summed up in the following definition of tendon reflex given by Charcot:

"*The tendon phenomena are the result of reflex action; they originate in the centripetal aponeurotic nerves situated between the muscle and the tendon,—nerves which pass with the posterior roots to the æsthesodic* nerves of the cord, which are themselves in connection with the motor cells of the anterior cornua; the reflex arc is completed by the motor cells and by the motor nerves which emanate therefrom. The arc of the tendon reflex is not the same as the arc of the musculo-cutaneous reflex.*"

Having thus set forth the character and physiological nature of the tendon-reflex phenomena, we shall at a future time indicate the semeiological value of the symptom, the importance of which in the diagnosis of certain nervous diseases cannot be exaggerated.

* Æsthesodic nerves are those having the faculty of conveying sensation.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

A CONVERSATIONAL meeting was held at the hall of the College of Physicians, Philadelphia, March 9, Dr. Albert H. Smith, President of the Society, in the chair. Dr. Little read a paper upon reflex affections of the eye. (See No. 354, p. 581.)

DISCUSSION UPON REFLEX EYE-DISORDERS.

Dr. S. D. Risley said that cases of eye disease due to conditions of general ill health frequently occur in the practice of the ophthalmic surgeon, but he believed it was rarely necessary to resort to the theory that they were reflex in their origin. In cases of hyperæsthesia of the retina, or of retino-choroidal irritation, it was his habit to exclude as a possible cause any existing refraction error by careful correction, and, if relief did not follow, refer the patient elsewhere for treatment of any existing trouble with other organs. He could cite a number of cases with eye-symptoms accompanying stomach-trouble, uterine disease, and other disorders, which did not do well until these other conditions were properly treated. They were not, however, regarded as sympathetic or reflex in origin. Given a case of hypermetropia, or other error of refraction, of low degree, and the patient may remain in ignorance of its presence until the general tone of the system is lowered by some depressing influence,—it may be by uterine disease, a miscarriage, or one of the exanthemata.

As long as the patient was well and strong, the eye-strain was endured without a murmur, but under the depressed tone of the system the eyes not only became painful, but the subject of pathological changes, if not relieved.

He thought hyperæsthesia of the retina very rarely present without definite pathological ocular change to account for it. He could recall but one case occurring in his experience,—a young woman with a family history of nervous derangements and mental

disturbance. She had been under the care of a prominent practitioner for loss of voice, for which he could discover no cause. She was sent to consult a gynæcologist, who pronounced the uterus healthy. A new direction, however, had been given to her thoughts. The voice was rapidly restored, and she became the victim of backache and various other symptoms of uterine disease, for which she was placed under the care of a female physician, who for several months treated the uterus locally.

Some of her associates about this time were under Dr. Risley's care for eye-trouble. In a few weeks she was brought, suffering from the most agonizing photophobia. The eyes were, externally, normal, $V = \frac{20}{XX}$ and eye-ground healthy, and were proved to be emmetropic under atropia. No improvement followed any treatment devised: so she was sent to the sea-side, with the remark in her presence that if there was not decided improvement in a week she was to return, and leeches would be applied to the temples.

She returned at the end of a week, entirely well.

When the general muscular vigor is below par from any cause, the muscles of accommodation and convergence do not escape the general weakness. This is frequently witnessed after wasting diseases. Nothing is more common than to hear the asthenopic patient date the beginning of his eye-trouble back to an attack of typhoid fever, or some other disease from which he had suffered. The weak eyes of ladies recently confined, he thought, were to be placed in the same category. Hypermetropic children not infrequently have strabismus for the first time during convalescence from measles or scarlet fever, and, as every one knows, this is the favorite time for an onset of phlyctenular disease. It would be unwise to treat these cases by local measures only. He believed, then, that, given a case of depressed health from uterine or other disease, the liability to eye-disease is greater than in health, and that this liability is greatly enhanced by the presence of some error of refraction, but that resort to a theory of reflex action is but rarely necessary.

Dr. Charles S. Turnbull remarked a difference between the eye-symptoms of pregnancy and those occurring in the condition discussed in the paper. His attention had been called to the latter when he was with Dr. Knapp. His experience was that the eye-symptoms in anæmic women are less frequent than in strong, robust women. So much was this the case that Dr. Knapp considered it to be a common defect in American girls, and occurring more frequently in the office practice among the better class of patients than among the poor. He (Dr. Turnbull) would not be willing to discuss them simply under the head of asthenopia, but as coming more directly under local anæmia or hyperæmia, and would then ascertain the condition of the uterus. The term ischæmia retinæ, or a sluggish condition of the retinal circulation, he preferred to either anæmia or congestion, as being more applicable. A cure is most often obtained where menstruation has been deficient or entirely suspended, owing to the symptoms being produced by rush of blood to the head (vicarious).

In cases of strabismus he would not blame the internal recti muscles alone, as stated by the preceding speaker, because myopia is not generally associated with it: he would rather in such cases blame the external recti, because hyperopia is the most common error of refraction accompanying such cases. In some cases hyperæsthesia of the retina is due to the lazy, inactive life so frequently pursued by young girls. He had never seen a case of undoubted hysterical asthenopia, but he had seen numerous simulated errors of refraction in cases where there was also functional disorder of the uterus.

Dr. John B. Roberts was interested from the fact that he had seen a number of cases in which the condition of the uterus had some connection with the eye disease. Eye-symptoms may in like manner be caused by defective teeth. He had seen patients suffering very great inconvenience from asthenopic symptoms without the slightest degree of error of refraction existing: hence the asthenopia was either muscular or retinal, and seemed connected with uterine disorder. He had also seen cases of evident eye-disorder in which, after the adjustment of spectacles, the expected relief was not obtained: it was then discovered that there was some uterine derangement. He did not believe that the influence was reflex, but it was connected with the general depression of health which might accompany any ailment. In one case, a healthy, robust woman, no asthenopic trouble was experienced until her first pregnancy: she got quite well, but the eye-symptoms returned with the next pregnancy. He had even seen corneal ulceration in connection with prolonged nursing of a child as a result of malnutrition.

These cases are very interesting, as they bear directly upon the question of treatment, which should be less special than general.

Dr. Little, in concluding the discussion, said that he had not claimed originality in his views, but merely reported a few cases to stimulate observation. In his second case he had tried electricity without lasting result. The eye-defects were thoroughly corrected, but even under the effects of atropia the blepharo-spasm continued, showing a reflex source of irritation outside of the eye; for if they had been in the eye the correction of the refraction and the instillation of atropia would have relieved the troubles. The third

case was handed over from the gynæcologist, and the eyes were treated afterwards. The first two cases were fully corrected before being passed over for uterine treatment.

The rule is in cases of eye-symptoms to correct any errors of refraction, and also to correct uterine trouble, kidney-trouble, or other source of disorder in the system. In cases of pregnancy the eye-disorder might be due to uræmia or Bright's disease; but these do not come within the scope of the paper.

March 23, 1881.

DISCUSSION UPON DIGITALIS.

Dr. H. C. Wood, in opening the discussion, referred to the current views in regard to the action of digitalis upon the nervous apparatus of the heart, and claimed for it a peculiar effect upon the heart-muscle. This influence, which had been fully demonstrated by physiological experiment and sustained by clinical observation, renders digitalis particularly serviceable in the condition of heart disease in which the increased work required of the heart is greater than the increase of the power, without regard to the particular valve which may be affected. It improves the nutrition of the heart by regulating its contractions and lengthening the diastolic interval, doing away with the rapid, imperfect contractions which interfere with the blood-supply of the cardiac muscle. In such cases the nutrition of the heart suffers because it is necessary to have lateral distention of the aorta in order to fill the arteries in the muscular tissue. A little digitalis steadies the heart, and therefore improves its condition and retards degeneration.

In chronic valve-trouble of the heart, digitalis is serviceable, and sometimes must be given in large doses. A half-drachm dose of the tincture apparently saved from impending death two cases of advanced heart-trouble coming under the speaker's observation: they afterwards got well enough to attend to their business. It enables the heart to gather up its strength, and keeps it going until the last. By the surgeon, digitalis is often used improperly. Thus, it is not rarely given in aneurism, where the great danger is from increased lateral pressure, not want of forward pressure. In one case coming under his observation digitalis caused the rupture of an internal aneurism at the hospital. The patient had been brought in without any diagnosis, and no one had suspected aneurism.

In acute diseases with failing heart, digitalis may be employed: such a condition may occur in asthenic or in the advanced stages of sthenic pneumonia. In the early stage of sthenic pneumonia it is improper to give it. Such a medicine as veratrum viride, which produces vaso-motor paralysis, is indicated, so "as to bleed a man into his own tumors." Blood is drawn to the lungs because there is there a local vaso-motor palsy: produce a general vaso-motor palsy, and the local attraction ceases. When the lung is consolidated throughout a large extent, the heart is overworked; by and by it begins to fail, the pulse gets rapid and feeble: now digitalis comes into play. It will save life in such a condition, when the patient without it must die. Take the case of a drinking man, seen a few days since, suffering with pneumonia, pulse 150 to 160, respirations 60 to the minute, delirium persisting for two or three weeks, expectoration of pure blood, &c. This man was given ten minims of tincture of digitalis every two hours, day and night, until the pulse fell to 60,—when the digitalis was stopped, and resumed as the pulse went up. By the aid of milk and whisky the patient was saved.

Two points in conclusion: (1) in regard to the cumulative action, (2) in regard to the cause of the slow action, of digitalis. The remedy acts slowly in producing its full effect, and its effects are very permanent when they do appear. Some agents act more quickly than others: digitalis acts slowly and cumulatively, not only because of its special influence upon the heart, but because it only comes very slowly in contact with the heart-structure, since it osmoses slowly into and out from the body. Where it fails to act upon the kidneys, it is more apt to act cumulatively upon the heart. The practical point is this: watch the kidneys when giving large doses of digitalis: if water is not passed freely, then cumulative action will be apt to occur. In a case of chronic pleurisy Dr. Wood tried to run off the water by the kidneys; the pulse ran down steadily from 70 to 40 in four days after the medicine had been withdrawn; it was a long time before the effect of the digitalis was manifested, and it was long before it ceased to act. In the pneumonia case, after the pulse began to drop, it was eighteen or twenty hours before it again reached the normal. The longer the digitalis is in acting, the more likely it is to have a lasting effect. After abdominal tapping, the digitalis often shows itself in reducing the heart's action. Either the digitalis has been lying in the intestines unabsorbed or in the cellular tissue: probably all the fluids are saturated with the drug.

Digitalis is a very useful remedy in cases of syncope and collapse. Formerly alcohol alone was used. One of the advances of modern therapeutics was to teach the danger of giving large doses of alcohol in cases of surgical shock. Belladonna and digitalis are proper remedies, given by the hypodermic injection. The pulse begins to fill up in twenty minutes or half an hour. No irritation is produced at the point of puncture. Throw in twenty minims of the tincture at once, and expect to find the result in half an hour.

He did not wish his remarks to be understood as declaring that digitalis was entirely without danger, but he had used it in hundreds of cases, and had seen men apparently dying revive under its effects. It is important to stop it as soon as evidence appears in the pulse that it is beginning to be absorbed. Used in this way, he did not believe that there would ever be any serious cases of poisoning with it.

Dr. E. T. Bruen could not agree with the speaker in condemning stimulants in shock: he had seen cases brought back to life by their aid when apparently dying of cardiac failure. Digitalis should be given in small doses in valvular disease, on account of the disturbance of digestion caused by large doses, and because he had seen brilliant results from small doses for months after he had utterly failed with large doses. As regards the danger, it can be guarded against by watching the pulse. He tells patients to stop the remedy when the pulse gets down to 60.

Dr. O'Hara endorsed the speaker's remarks in regard to the value of large doses. He prefers the infusion. He had observed that in some cases, however, the drug seemed to exert no influence at all.

Dr. J. T. Eskridge considered digitalis particularly serviceable in nervous heart and weak heart, and reported several cases. He also approved of its use in shock and collapse. He gives the infusion generally, but gives the tincture when he wishes to keep up the effect for a long time. He had never seen any cumulative action upon the heart.

Dr. Toboldt pointed out that there is a great difference in the infusion as obtained from different druggists. He had found that it is made by some simply by adding water to the fluid extract or tincture.

Dr. Benjamin Lee inquired as to the value of digitalin.

Dr. William B. Atkinson uses digitalis in full doses in scarlet fever, always having the infusion made under his own supervision from the leaves. He had seen cumulative action twice.

Dr. H. Leaman reported a case of a laboring-man with advanced heart-disease, with cartilaginous valves. As soon as he put him upon the digitalis he was able to go to his work, and he continued to perform manual labor without trouble or palpitation, from which he formerly suffered, although the medicine was not kept up.

Dr. W. R. D. Blackwood said that he had used it very largely in delirium tremens. He considered it important to watch the kidneys, especially where using large doses. In old topers he had given half-ounce doses of the tincture, and in one case he had used this dose for eight repetitions an hour apart. He believed that this patient had been kept alive for six years by digitalis.

Dr. L. Turnbull inquired in regard to the tonic effect of digitalis. Some authorities believe that it is not the weak heart that is acted upon, but the nervous apparatus: consequently the irritable and irregular heart would be more likely to be favorably influenced.

Dr. Wood, in closing the discussion, said that he would refer to but two or three practical points that had been touched upon. First, in regard to the choice of preparations: the general preference appears to be for the infusion. He believed that the only reason that the infusion was preferred as being more efficient is because it is usually given in relatively larger doses than the tincture. He would mention, in passing, that the infusion as well as the tincture obtained from an unknown druggist is not rarely an unreliable preparation. He had seen very few cases where the stomach-disturbance was considerable, and believed gastric disturbance was less apt to occur when the tincture was given than with the infusion. With regard to digitalin, he had not made much use of it: it is not the alkaloid, but merely a purified extract, and comprises at least two principles,—the one soluble in water, the other insoluble. It is uncertain in its composition and in its results. As the dose of digitalis is so small, it is not necessary to resort to this substance, with which you might get results or you might not.

He wished to be distinctly understood as discountenancing the use of large doses of digitalis until the small ones have failed: he would never use powerful remedies when milder ones will do. With regard to Dr. Leaman's case, the heart had apparently been starved, and the use of digitalis had flushed it with fresh blood and gave it a new stock of nutrition. In such a case he would advise continuing the remedy, giving small doses from time to time, in order to continue the effect. The action of digitalis upon the frog's heart is that it is rarely arrested in diastole, more frequently in systole. As regards the question of its effect upon the pneumogastric nerve, in some cases the effect is to destroy life in this manner. In such cases we can restore the action of the heart by cutting the pneumogastric nerve. As a rule, however, the effect is greater upon the heart than it is upon the nerve, and the animal dies of cardiac spasm. It has the same effect upon the pulse of mammals; its full effect produces a weak pulse, sometimes dicrotic: this he had seen beautifully illustrated in man. It means that there are two antagonistic effects upon the heart,—upon the heart-muscle and upon the brake-action: this is undoubtedly the explanation of the dicrotic pulse and of the double wave written upon the manometer. Later the arterial pressure is found to be falling; looking at the heart, the dilatation becomes less, the diastole becomes imperfect, only a small amount of blood now enters its

cavities, on account of the cramp of the muscular tissue, just as in the tetanic spasm or the muscles of strychnia-poisoning; then comes cramp of the muscles of respiration, and death. The pulse becomes frequent in digitalis-poisoning, because the heart is so constricted that the blood is dammed back and cannot get into the aorta.

A vote of thanks was, on motion, tendered Dr. Wood for his able remarks.

April 13, 1881.

SPECIMEN OF FALSE MEMBRANE FROM THE INTESTINAL CANAL. Presented by Dr. W. R. D. Blackwood, for Dr. B. Lee.

The patient is a married woman, about 45 years old, of nervous temperament, spare habit, rather anæmic, with a frequent and feeble pulse. Has partial anchylosis of the left hip-joint, and has suffered a rupture of one of the peroneal tendons of the same leg, from which she has been compelled for a year past to walk with a cane. Has suffered more or less from malaria at the West. Appetite and digestion good. About the middle of January last she had an obstinate attack of inflammatory diarrhœa, for which I treated her with minute doses of Dover's powder and calomel, followed by small doses of castor oil frequently repeated. It subsequently appeared that this attack was due to sewer-gas in her bedroom, which accounted for its persistence. One week since, she began to be sensible of a disagreeable feeling of abdominal distention, accompanied by soreness in the abdomen on motion, but not on pressure. This gradually increased for three days, and at the same time a general sense of nervous uneasiness, compelling her to keep in motion, developed itself. Finally, after an attack of severe "tearing" pain in the situation of the transverse and descending colon, she had an evacuation consisting principally of shreds of membrane like those which I present. These evacuations have continued at the rate of two or three a day, sometimes with and sometimes unaccompanied by fecal matter. There is no diarrhœa, and little if any febrile movement. No headache or nausea. The intense pain before the evacuation is relieved by the discharge of the offending material. This attack is not the first of its kind. She has had similar ones occasionally for three or four years, the general symptoms being such as characterize the present. The membrane has usually been discharged in strips about six inches long and half an inch or more in width, but the first which she ever passed was tubular and of considerable diameter. They appear to me to be extremely tough and coherent, and to be composed of distinct layers, so much so as to suggest a suspicion of their origin. They have been macerated in water and subjected to several washings since yesterday (Tuesday) morning, when they were extruded, which has of course diminished their tenacity. I would suggest the propriety of their being subjected to microscopic examination.

The specimens were referred for examination to the Committee on Microscopy.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, MARCH 10, 1881.

The PRESIDENT, DR. S. W. GROSS, in the chair.

Hypertrophy of nymphæ. Exhibited by Dr. B. F. BAER. (Permission having been on motion accorded him, Dr. Baer's paper will appear in the *Obstetrical Journal.*)

DR. FORMAD said that he had made a microscopical examination of a section of the specimen presented by Dr. Baer. The surface was covered by the normal cuticle of a mucous membrane somewhat hypertrophied, owing to exposure to the air. The rest of the growth consisted of succulent fibrous tissue, so that he would call it a polypoid fibroma.

Dr. S. W. GROSS asked whether Dr. Formad had noticed anything peculiar about the lymph-spaces.

Dr. FORMAD replied that in the single section examined by him nothing unusual was noted with regard to these cavities.

Case of alveolar sarcoma of the femur. Exhibited by Dr. C. B. NANCREDE.

The specimen was removed by exarticulation at the hip-joint, in January, 1881, from a man aged 35 years. The duration of the case is doubtful, but it probably extends over a space of about two years. A little over three months back, spontaneous fracture occurred. The tumor involves the lower half of the femur, the popliteal space, and apparently the tibia. Owing to the unfortunate decomposition of the specimen, nothing definite can be said about the deeper portions of the growth or the condition of the knee-joint. A loud aneurismal bruit was heard over all portions of the growth, which was of variable density. In the fresh state, upon dissection, the growth was strictly limited in front and laterally by the fibrous expansions of the quadriceps, but the posterior muscles were involved near their attachments. Section of some of the nodules revealed a growth which closely resembled normal brain-substance in consistence, etc. Microscopic sections were obtained from portions removed within twenty-four hours of the amputation, but, as before said, the actual involvement of the tibia or knee-joint could not be determined, owing to decomposition having taken place. The patient did well for a few days, but died finally on the eleventh day after operation. He wor-

ried and fretted so lest something *might* go wrong, that although the wound was well united, except at portions of its edges, a few drainage-openings, and its deepest parts, he actually seemed to die on account of his dread of death, which reduced his vitality to such a low ebb as to render him a ready victim to blood-poisoning, to which, although shown in no definite form, he seemed finally to succumb.

Osteo-sarcoma of knee-joint. Exhibited by Dr. H. F. FORMAD, for Dr. C. A. MCCALL.

Mrs. R., 30 years of age, has four children, had two miscarriages, and one set of twins at full time. Weighed while in health about one hundred and fifty pounds. Never had had a day's sickness previous to this lesion; not a trace of any hereditary or specific disease in her family.

Mrs. R. during the Centennial year experienced, for the first, pain upon protracted exercise, in the right knee. A few months thereafter the leg would become suddenly flexed without apparent cause, thereby occasioning frequent falls, one of which, while stepping out of a carriage, resulted in a violent blow upon the right knee against the edge of the curb-stone. Synovial inflammation at once set in, with all the usual symptoms,—pain, swelling, enlargement, fluctuation, etc. This condition becoming chronic, anchylosis to a considerable degree was established. In the latter part of 1877, Prof. Agnew broke up the adhesions and the leg was placed in Stromeyer's apparatus; this was borne but indifferently well, and before another six months the distortion was reproduced. At this time the swelling of the joint began to be more marked; pain was excruciating and intermittent; the patient's health began to give way; she became thin and anæmic, and, though not strictly confined to her bed, showed all the symptoms of general "break-up." The case then left my hands, but came again under my care one year ago, when I found the leg in much the same condition as now presented in the specimen. Her general condition of health was bad, and in addition she was pregnant. A delay of nearly a year for any surgical interference was thus forced upon me.

November 27, after the puerperal state had fully passed, and the patient being in good condition of nutrition, amputation was resorted to, and performed at the upper third of the thigh. She stood the operation well. The stump healed, and she is regaining apparent health.

At the time of the operation the tumor had reached the size of an adult's head. The skin was freely movable over the tumor, and no discoloration or ulceration was present. The lymphatic glands were not involved. The tumor was of white color, soft in consistence, contained numerous fragments of bone in its parenchyma, but was not enveloped in a bony capsule. The lower portion of the femur and parts of the tibia and fibula, as well as the patella, were involved in the new growth.

Microscopic examination revealed the typical structure of *alveolar sarcoma*, strongly intermingled, however, with the spindle-celled variety of sarcoma.

Dr. FORMAD said that, in addition to the information given in the notes, he would say that the patient had done well since the operation, having gained in flesh and strength. He thought that both Dr. Nancrede's case and his own were remarkable in this combination of round and spindle cells, which is certainly uncommon in such a situation, constituting the rare form of alveolar sarcoma.

Dr. GROSS called attention to the rarity of alveolar sarcoma, and said that these two specimens were, he believed, the only ones that had ever been exhibited to this Society. In his lectures before the College of Physicians upon sarcoma of the long bones, he had then only one case of alveolar sarcoma to report, the specimen having been sent him by Dr. Burchard, of New York. He thought that, contrary to Dr. Formad's opinion, the outlook for Dr. McCall's case was very bad, as this form of sarcoma is peculiarly fatal. He would also call attention to the unusual fact that the knee-joint had been invaded and completely destroyed. This was the first instance out of many examined by him where this condition had obtained. Extension of this disease from the tibia to the femur, or *vice versa*, is not uncommon, the morbid growth seeming to travel along the crucial ligaments. There seemed to be numerous portions of the specimen presented by Dr. Formad which were calcified. Dr. Gross would therefore class this tumor as a calcifying alveolar sarcoma.

Vesical calculus. Presented by Dr. C. B. NANCREDE.

C. S., aged 5 years, had been suffering from difficult and painful micturition for about three years at the time when I was asked to see him. Two years previously he had been taken to a hospital in this city, where the hypertrophied condition of his prepuce, instead of exciting suspicion of a vesical calculus, only induced the surgeon on duty to circumcise him. In the latter part of January, 1881, he was admitted to St. Christopher's Hospital under the charge of my friend Dr. Wm. H. Bennett, who, immediately suspecting the nature of his ailment, sounded him and readily detected a stone.

He kindly requested me to operate for him, which I accordingly did on February 9, 1881. No difficulty was experienced in reaching the stone, but it was only after prolonged efforts, consequent upon repeated failures, that, after enlarging the wound in the bladder, I finally extracted this unusually large stone

for so young a child. It measures one inch and a half, less a sixteenth, in the longest diameter, by one inch in width, by five-eighths of an inch in thickness, and weighed two hundred grains.

Vocal apparatus of the alligator.

Dr. C. SEILER said that during his recent stay in Florida he had occasion to examine the vocal apparatus of the alligator. To his surprise, in almost every instance there was more or less ulceration of the epiglottis, etc., in some cases amounting even to the total destruction of this structure. He had discovered that these lesions were due to a small variety of leech abounding in the Florida rivers. In some instances he had detected these creatures *in situ*, and the surfaces left upon their detachment were so exactly similar to those seen in the other supposed specimens of ulceration, that he was compelled to conclude that all were due to the same cause, viz., leech-bites.

THURSDAY EVENING, MARCH 24, 1881.

The PRESIDENT, DR. S. W. GROSS, in the chair.

Specimen of necrosis of radius. Exhibited by Dr. C. B. NANCREDE.

This specimen was removed from a married woman, 35 years of age, who three or four years since had her arm, as she calls it, "badly sprained." Some months after this the swelling and pain increased, suppuration ensued, and numerous sinuses formed. At the time of my examination, before admitting her to my wards in the Protestant Episcopal Hospital, the arm presented the ordinary appearance of necrosis with either fracture of the sequestrum or involucrum, as movement induced crepitus. At the operation it was seen that death of the whole shaft, for an inch or more, had occurred, that the necrosed segment had been nearly absorbed, and that its fracture had been the result of some trivial violence. The special point of interest was that nothing worthy of the name of involucrum had been formed, only a few nodules of osseous material being detectable in the surrounding periosteum. Condensing osteitis was present to a marked degree contiguous to the necrosed and carious bone, rendering its section very difficult. Dr. Nancrede thought that the specimen was of interest from the rarity of the failure of the periosteum, *in chronic cases* of bone-trouble, to form a marked involucrum.

IODOFORM IN GONORRHŒAL ORCHITIS.—Sabadini, in a case where there was enormous swelling and intense pain, applied an ointment of one part of iodoform to four parts of vaseline. The swelling disappeared within a few days, the patient going about as usual all the time.—*Gazette des Hôpitaux; New York Medical Record.*

PHILADELPHIA ACADEMY OF SURGERY.

STATED MEETING OF MARCH 7, 1881.

DR. S. D. GROSS, President, in the Chair.

DISLOCATIONS AT THE WRIST-JOINT.

DR. J. EWING MEARS reported two cases of posterior dislocations at the wrist-joint, occurring in boys aged respectively 17 and 12 years.

Case I.—J. M., colored, æt. 17, came to my office on the night of January 22, 1878, suffering from an injury of the right wrist. At the time of the receipt of the injury he was engaged in turning out the gas-lights in a gymnasium hall, standing for that purpose on a small step-ladder. Losing his balance, he fell from this to the floor, striking on his right side, his right arm being under his body, the wrist-joint bent, and the hand twisted inward. Regaining his feet, he found that he had sustained an injury to the joint. Slight pain was felt in the parts.

On examination, it was found that the movements of the joint were greatly impaired. The hand was slightly flexed, as were also the fingers. On the posterior surface of the forearm, just above the radio-carpal articulation, there was a marked projection, the surfaces of which were rounded and smooth. Anteriorly, there was a corresponding projection, formed by the lower extremities of the radius and ulna, the outlines of which could be distinguished by firm pressure. In the efforts which were made to elicit crepitus, it was found that the projecting surfaces could be separated to a slight extent, and that the continuity of the bones of the forearm could be distinctly traced.

Reduction was easily accomplished by extension and manipulation, and the functions of the joint immediately restored. There was no tendency to a return of the displacement, and careful examination failed to detect crepitus. A bandage was applied and retained in position for three days, for the purpose of affording support to the joint. Since the receipt of the injury the joint has been examined from time to time, and there has been found no evidence of the slightest impairment in its functions. The patient being present this evening, an opportunity is afforded of making an examination three years after the accident.

Case II.—In July, 1878, a boy, æt. 12 years, was brought to St. Mary's Hospital, who had sustained an injury to the right wrist-joint by a fall from a tree. He was greatly alarmed by the accident, and could give no intelligible account of how he alighted upon the ground. He made no complaint of pain on manipulation of the parts, and careful examination could not discover any marks or bruises upon the surfaces of the hand to indicate that he had fallen upon this part. The signs of posterior dislocation were as strongly marked as

in the previous case, and, before efforts at reduction were made, these were all verified by examination. Reduction was effected, and a roller applied as before. In a few days this was removed, and the movements of the joint were found to be unimpaired.

Dr. Packard said that he had met with three cases which he believed to have been luxations of the wrist.

Case I.—A. R. H., æt. 37, was admitted into the Episcopal Hospital, December 4, 1879, having fallen from a scaffold about twelve feet high. He was thought to have a Colles' fracture of the wrist; but there was no crepitus, the reduction was readily accomplished, and one week afterward the functions of the hand were perfect.

Case II.—G. B., æt. 17, came to the Dispensary of the Episcopal Hospital, December 15, 1880, with luxation inward and forward of the right wrist, from a machinery accident, the hand having been twisted on the forearm by entanglement in a power-band. Reduction was readily accomplished, and, as in the previous case, the recovery was very rapid. On account of a severe laceration of one finger, the hand was kept on a splint for some weeks, but on careful examination of the wrist two weeks after the injury, none of the well-known symptoms of the so-called "Colles' fracture" could be detected.

Case III.—This case is open to some doubt. D. K., æt. 15, was playing with other boys, when he fell off a railed door-step, and "twisted his wrist all out of shape." One of his comrades grasped his hand, and "pulled it straight." He came into my office immediately, and I found only some tenderness about the joint: this subsided in a very few days, and left no soreness or lameness behind it.

JOHN B. ROBERTS,
Recorder.

REVIEWS AND BOOK NOTICES.

TRANSACTIONS OF THE AMERICAN DERMATOLOGICAL ASSOCIATION, with the President's Address, at the Fourth Annual Meeting, Newport, R.I., August 31 and September 1 and 2, 1880. Official Report of the Proceedings, by the Secretary, DR. ARTHUR VAN HARLINGEN. Philadelphia, 1881. Pamphlet, 8vo, pp. 85.

The specialty of dermatology is one which lies closer to the work of the general practitioner than that of other specialists. Ophthalmology, otology, etc., require in every case peculiar manual dexterity in one who would practise in these branches with success. But the dermatologist is simply a physician whose studies lie in certain directions, not a skilful operator or manipulator. Moreover, he is daily digging his own grave. Of few devotees of medical science can the old Virgilian lines be so appropriately quoted,—

"Sic vos non vobis mellificatis apes."

Out of the slough of confusion and ignorance in which diseases of the skin seemed buried a few years ago, there has already risen a fair fabric, built by skilful architects, and as appropriate for its purpose as in the present state of our knowledge any work of the medical builder may be. The student, supplied with the text-books of to-day, may begin the study of dermatology with confidence, knowing that he shall not be overwhelmed with the jargon of an obsolete and confused classification and driven to distraction by the multitudinous synonyms of a barbarous nomenclature.

Much of this work of simplification and elucidation has been done by the dermatologists of America, and in no country has the study of skin diseases been carried on with such enthusiasm and vigor as in our own during the past decade. The address of the president of the American Dermatological Association, Dr. Duhring, contained in this volume of the Transactions, bears abundant witness to the labors of himself and his associates, since it is occupied with a short *résumé* of the dermatological work of the past ten years. Not least among the writings there mentioned are those of the eminent president himself, whose Treatise, the second edition of which we recently had occasion to notice, has done more to simplify and make clear the subject of which it treats than any other work published in the English language, and whose Atlas, now approaching completion after years of preparation, is one of the most creditable works which the profession of this country has as yet produced.

Of the various other papers which are abstracted in the volume before us, we may mention that of Dr. Greenough, on herpes progenitalis, that on the treatment of eczema of the hands and face, by Dr. Bulkley, and that of Dr. Heitzmann, on some experiments in epilation, as of particular interest to the general medical reader. The discussions on these topics, having brought out expressions of opinion from the best-known dermatologists of the country, add much to the interest of the papers themselves. Other papers are those on Medicinal Eruptions, by Dr. Van Harlingen; on Ainhum, by Dr. Da Silva, Lima; on Tumors of the Skin, by Dr. Heitzmann; on Papilloma Cutis, by Dr. Hardaway; a Report of a Case of Scleroderma, by Dr. Graham; Pityriasis Maculata et Circinata, by Dr. Duhring; The Kerion Stage of Tinea Tonsurans, by Dr. Atkinson; Lichen Planus of the Penis, by Dr. Bulkley; Report of Two Cases of Fragilitas Crinium, by Dr. Walter G. Smith. The report of the Statistical Committee is an analysis of 11,047 cases of skin

disease which had come under the care of the members of the Association during the year previous. It contains much interesting material. Appended to this is the annual report on leprosy in the United States, in continuation of the reports of former years. We understand that these have been made use of by the Superintendent of the Census in preparing a report upon the prevalence of this malady.

We may add, for the benefit of those who desire to consult the papers of which abstracts are given in these Transactions, that they will be found in full in the *Archives of Dermatology* for October, 1880, and January and April, 1881.

COULSON ON THE DISEASES OF THE BLADDER AND PROSTATE GLAND. Sixth Edition. Revised by WALTER J. COULSON, F.R.C.S. 4to, pp. xxxii., 607. London, J. & A. Churchill, 1881.

Not many books reach a sixth edition, and when they do it is a fair evidence of a lusty youth and a vigorous age. The twenty-three years since the last edition have seen so many discoveries and improvements in medicine that it is no surprise for the editor to tell us that nearly all the chapters have been rewritten and several entirely new ones have been added. Among the last, in graceful contrast to the chary treatment accorded it by Sir Henry Thompson, is one on litholapaxy; and Dr. Bigelow is rightly credited with not merely an improvement on an old method, but a new method. Indeed, one feature of the book is the thoroughness of the editor's knowledge of American surgical literature. Scarcely a chapter is read which does not mention our familiar names. To our surprise, therefore, we found one so well known as McClellan misspelled by the omission of the "c." There are, however, far too few illustrations. Few books bear illustration so well as surgical text-books; those especially of narrow scope should be full, giving the various instruments to be used, the procedures, the regional anatomy involved, etc. Among its readers will be many a one who does not know even the simpler but it may be less-used instruments, and he goes to just such a text-book as this for information and fails of his purpose. So exhaustive a treatise as this pretends to be, with its thirty-two chapters and over six hundred pages, ought to have vastly more than twenty-two engravings.

The subject of calculus is very fully and excellently treated, and we commend especially the chapter on the Solvent Treatment of Calculus. *Per contra*, there is no chapter on the analysis of the urine, nor are even the scattered directions on the subject of great value.

To give, however, an idea of its contents, or even a brief discussion of scattered points, is impossible in our limited space. We can only, therefore, commend it as an excellent hand-book on its subject, thorough, modest, and as complete as any we know.

W. W. K.

GLEANINGS FROM EXCHANGES.

THE TREATMENT OF ANÆMIA.—Dr. Sidney Coupland, at the conclusion of his Gulstonian Lectures on Anæmia (*British Medical Journal*, vol. i. p. 633), speaks of hygienic measures including hydrotherapy, and endorses the conclusions of Drs. Mary Jacobi and White as to the increased tissue-change brought about by the use of the wet pack with massage in addition to ferruginous medication. As to diet, Dr. Coupland recommends meat in considerable quantity as soon as the digestive organs are capable of disposing of it; but when, as so often happens, the digestive power is at a minimum, then recourse may be had to meat essences, peptonized foods, and (as an extreme measure) nutrient enemata. The anæmia is sometimes partly caused by a non-nitrogenous diet, and patients are averse to it, but it is essential.

Of medicines, iron of course stands first. The action of iron has never been explained, nor why the best results in the most marked cases of chlorosis are obtained by the administration of heroic doses far in excess of what is actually required in blood-formation, and much more also than is actually absorbed. Dr. Coupland gives a table of cases of anæmia treated by iron and arsenic showing the increase in value of the corpuscles and also their increase in number. He prefers the sulphate in large doses, and says its rapid effect in chlorotic anæmia is surprising. It is usually well borne.

Next to iron, and in some forms of anæmia to be preferred to it, is arsenic. It is almost the only drug which has been successful in the treatment of severe idiopathic anæmia, which more often resists all medication. In one case cited, where the estimated number of blood-corpuscles per cubic millimetre was 560,000, or 11.2 per cent., four minims of Fowler's solution with digitalis were given six times daily. In two months' time the number of corpuscles had increased to 64 per cent. In this case iron had failed. Quinia, strychnia, and the mineral acids as usually employed are valuable adjuvants.

Transfusion in symptomatic anæmia, as from loss of blood, Dr. Coupland thinks is advantageous. It is another matter, however, in regard to transfusion in pernicious anæmia. Of twenty cases reported there were only six recoveries, all occurring in the practice of Quinke, the originator of the plan. Dr. Coupland thinks Quinke's success is due to the fact that he has resorted to the method earlier in the course of the disease. Quinke

thinks that in transfusion the blood is reinforced with functionally active elements; and the results of his cases apparently bear out that opinion. Transfusion, then, is a correct and rational procedure, and one which we are bound to adopt in these cases of progressive idiopathic anæmia, if no ordinary treatment makes any impression on them.

Vicarious Menstruation from a Sebaceous Tumor of the Auditory Meatus.—Dr. J. Orne Green (*American Journal of Otology*, 1881, p. 133) gives the case of a young lady who came under his notice in 1877, suffering from occasional bleeding from the right ear.

There was no pain, deafness, or noises; and examination showed both ears absolutely normal in every respect, with the exception of a very slight prominence just at the edge of the right meatus, probably due to a former furuncle. The bleeding was at first supposed to be nothing more than an excessive flow of discolored semi-fluid cerumen, and the patient was dismissed. She appeared again two years and a half subsequently, stating that the bleeding had rather increased in quantity, and Dr. Green was then informed that it occurred at the menstrual periods. At such times the patient often, but not always, suffered from severe headaches; and if the bleeding from the ear occurred during such headaches, it would relieve the head. The patient had formerly suffered from bleeding at the nose during the menstrual periods, but this had ceased since the ear-trouble had begun. The hemorrhage was quite profuse,—sufficient at a time to cover a handkerchief,—and might occur several times during one menstruation. There were no symptoms in the ear,—neither pain, noises, throbbing, nor deafness; and examination showed nothing abnormal except that at the seat of the former slight prominence there was now a distinct sebaceous tumor as large as a bean upon the lower edge of the meatus, which the patient said had been increasing in size for some months. The skin over this was extremely thin and adherent to the tumor, and its surface was dotted with minute red spots, the seat of the last hemorrhage a few days before. As the tumor appeared to be without doubt the source of the hemorrhage, it was removed by elliptical incisions embracing the base and then dissecting out the whole mass. The contents of the cyst was sebaceous secretion, and the growth was nourished by a single artery, of large size considering the size of the tumor, which entered at its base. Five months afterwards there had never been any return of the hemorrhage from either ear or nose, and the headaches at the menstrual period were about the same as ever,—certainly no worse.

Dr. Green mentions a similar case which came under his observation, where, during menstruation, there was hemorrhage from the mucous surface of the tympanic cavity, the drum-head having been destroyed by previous disease.

Paralytic Chorea.—Dr. Gowers (*British Medical Journal*, vol. i., 1881, p. 636) says that in a well-marked case of common chorea three symptoms may commonly be noted,—spontaneous movement, incoördination of voluntary movement, and muscular weakness. Any one may predominate, and Dr. Gowers gives several cases where muscular weakness predominated the other elements; muscular spasm and incoördination were so slight as to be apparently absent. After giving notes of the cases (five in number), Dr. Gowers goes on to say that the age at which this form of chorea occurs is from seven to fifteen. Gradual loss of the use of one arm commonly first attracts attention, or, in some cases, the sudden dropping of objects, so characteristic of the imperfect muscular control of chorea, is noted early. In rare cases slight clonic spasm occurs in the affected arm at first, and passes off subsequently. The loss of power may be very great and real, or it may be much less than the loss of use of the limb would suggest. In these cases there is rather inaction than paralysis. The affection is usually confined to one arm; there is no hemiplegic weakness, no paralysis of face, tongue, and leg. Both arms may be affected, but one is always weaker than the other. Close and continued observation will usually detect an occasional slight choreic twitch, even in the arm which is weak, but more often conspicuous in the other arm which is the less weak, or even strong. Sometimes slight clonic contractions may be noted in the legs. The affection may pass off without choreiform movements being more conspicuous. Frequently, however, these subsequently come on; and they may be even more marked as the power in the arm becomes greater.

Whenever a child of seven to fifteen suffers from gradual loss of power in the arm, and presents no weakness in face, tongue, or leg, the disease, so far as Dr. Gowers has seen, is always chorea. If the nature of the case be suspected, confirmatory evidence,—slight occasional spasm,—if looked for, will commonly be at some time detected, either in the weak arm or in the other. The course of these cases is often tedious, and, as the choreoid movements may increase as the weakness passes off, the patients often seem to the friends to be getting worse when really getting better. Dr. Gowers has never seen this form pass on into severe general chorea.

The cases given were treated by strychnia and arsenic.

Treatment of Some Forms of Epilepsy.—Dr. Ramskill, in a clinical lecture on this subject (*Lancet*, May 7, 1881), says he gives carbonate of ammonium with the bromide of potassium. It has long been known that the addition of this drug increases the effect of the bromide. It has also the advantage of

being an antacid and stimulant. It is of great use when the iodide and bromide are administered together, and, indeed, in every case where there is much depression. Bromide of lithium is supposed by some to be a more powerful salt than the bromide of potassium or that of sodium. Dr. Ramskill thinks well of giving the potassic salt for a period, and, when its action ceases to be protective, adding small doses of the lithium salt. In some cases of syphilitic epilepsy large doses of iodide of potassium are curative, but in a few others very large doses having succeeded to a certain point then suddenly fail. At this juncture more iodide of potassium will not succeed, but the addition of a few drops of tincture of iodine makes a combination which acts magically on specific disease.

As to the dose of the potassium salt, Dr. Ramskill finds that forty-five to sixty grains a day are enough for an adult. No more than just sufficient should be used. Voisin says that a therapeutic dose of bromide of potassium is not reached until reflex nausea is suppressed on introducing a spoon as far as the epiglottis: it is not until then that the bulb is certainly acted upon and its excitability diminished. Dr. Ramskill thinks that this statement is not universally true, and that the epileptic fits may be subdued without going so far as the suppression of reflex nausea, and *vice versâ*. Bromide has far more influence over the *grand mal* than over the *petit mal*. The more frequent and violent the fits, the more marked success is to be gained by treatment. Too much bromide should not be given, for, if bromism once ensues, the treatment must cease, and the patient suffers from the effect of the medicine, while the case relapses as to the occurrence of fits. The bowels should be kept open, and in young cases an ice-bag may sometimes be worn next the spine for two or three hours every day. A pill of valerianate of zinc, aloes, and conium is given at night in some cases; in others, camphor and chloral inunctions are used with success.

Syphilis and Tubercle of the Throat.—Mr. Lennox Browne (*British Medical Journal*, vol. i., 1881, p. 685) says the voice of syphilis is generally hoarse, but rarely aphonic, because there exists congestion or ulceration, with irregular thickening; whereas in phthisis complete loss of voice is a very early symptom, and is due partly to muscular enfeeblement and deficient lung-power, but mainly to mechanical impediment to approximation of the cords, caused by the swelling of the sub-mucous tissue covering the arytenoid cartilages. Respiration is rarely continuously affected in syphilis, except in the later stages, when there is stenosis of the glottis, though acute attacks of dyspnœa, due to œdema, are not uncommon. In either case, paroxysmal stridor is the form in which this symptom is most often present. In phthisis, breathlessness is a constant and early symptom. There is no pain in syphilis, even with considerable ulceration, except where there is perichondritis. In laryngeal phthisis there may be acute agony in the performance of every functional act. As to the physical or objective evidence in syphilis, the order of things is: congestion, ulceration, cicatricial narrowing, and deformity; in phthisis, anæmia, gray semi-solid thickening, and ulceration. Mr. Browne insists strongly on the characteristic appearance of the red, angry, pinched-out, deep, excavated ulcer of syphilis,—the epiglottis, for example, frequently looking as if a piece had been bitten out of it by some rodent animal, as a rat; whereas in phthisis the ulcers are pale and feeble, and begin as small, superficial, worm-eaten points, gradually commingling so as to resemble rather the nibbling of a mouse. Mr. Browne went on to urge that a decided diagnosis should be given in the early stages of laryngeal trouble, and that every means should be employed to make that diagnosis an exact one. He has often been able to confirm a doubtful diagnosis by means of the thermometer and weighing-scales, especially in cases of tubercle affecting the larynx, before the stethoscope revealed any signs of active disease in the lungs. The tuberculous character of the disease may often be recognized by means of the laryngoscope also, when stethoscopic examination gives purely negative results.

Belladonna-Poisoning treated with Pilocarpin.—Dr. Grattan (*British Medical Journal*, vol. i., 1881, p. 594) gives the case of a woman of 42, who drank by mistake two ounces and two drachms of belladonna liniment (B. P.). She discovered her mistake, and took two teaspoonfuls of mustard in water with no effect; walked a short distance, purchased an emetic, which she drank, returned home, and felt dizzy, her sight going and shadows before her eyes. She lost the power of speech, became greatly excited, had convulsions and vomited freely, and then lapsed into profound stupor. Seen by the doctor for the first time at 10.45 P.M., nearly six hours after the ingestion of the belladonna, the pupils were widely dilated, face swollen and bluish, pulse almost imperceptible, respiration twenty-five. A stomach-pump was introduced, and the stomach thoroughly washed out with mustard and water. Vomiting took place in half an hour, and sensibility began to return, but the patient soon relapsed into stupor, in spite of cold affusions, etc. At 3 A.M., ten hours after the ingestion of the belladonna, one-fifth of a grain of pilocarpin was injected subcutaneously, the dose being twice again repeated at intervals of fifteen minutes. After the third dose there was decided improvement; consciousness began to return, and the pulse became stronger. After the fourth dose the pupils began to contract

under the influence of light. From this time improvement was rapid. There was dizziness, with dilatation of the pupils, for two days. Half-drachm doses of tincture of opium were given every night until the third day, when she had entirely recovered. Four-fifths of a grain of pilocarpin in all were given. It appeared to act as a direct antidote to the belladonna. It did not cause the least perspiration.

Source of the Liquor Amnii.—Wiener (*Edinburgh Medical Journal*, May, 1881; from *Archiv f. Gynäkologie*) injected coloring-matter under the skin of fœtal rabbits, and found that it was secreted from the kidneys in one case within twenty-five minutes, and in another case within a few hours. This shows that the fœtal kidney-secretion is not so slow a process as some observers would have it. He then argues that the fœtus must void its bladder, as when examined it is as often found to contain urine as to be empty. The author discusses and controverts *seriatim* Ahlfield's arguments against the possibility of the liquor amnii being the product of fœtal kidney-secretion. He gives a case where a pregnant woman died through accident, and where the fœtal bladder was found distended. The fœtal kidney has the same structure as that of the adult; and for this reason, as also because bile is known to be secreted during intra-uterine life, Dr. Wiener argues that urine is then secreted also. In answer to Ahlfield's objection that in cases where the kidneys were entirely absent the liquor amnii was still present, the author says that it is possible that other fœtal structures may perform the functions of the missing organ, just as in the adult the sweat-glands occasionally act for the kidneys to some extent when these latter are diseased. In addition, cases are known where deficiencies in the kidneys were accompanied by diminished liquor amnii. Wiener concludes that there is no doubt the kidneys secrete urine during intra-uterine life, and that this is voided at intervals from the bladder. In the earlier months the secretion from the skin and the mother's blood contribute, but the fœtal kidneys are the main source.

Congenital Closure of the Posterior Nares.—At a recent meeting of the Obstetrical Society of Edinburgh (*Edinburgh Medical Journal*, May, 1881, p. 1035), Dr. Ronaldson gave the case of a female child born at full term, and apparently healthy, except for some peculiar obstruction to its breathing. On attempting to inspire, the lungs were not inflated, while the under lip and cheeks were sucked in. On slapping the buttocks to make the child cry, there was no difficulty to free respiration when the mouth was opened. On keeping the mouth open by a spoon and pulling the tongue a little forward, it breathed well and steadily and cried lustily. There was, therefore, no obstruction to the respiration through the mouth and larynx. On examination the nostrils were found filled with a glue-like translucent substance which could be pulled out *en masse* like a piece of tough glue. It was evidently a collection of inspissated mucus. After clearing the nose of this mucus an attempt was made to blow air through the nares, but failed. The passage of a probe was also attempted, but failed. The child died within twenty-four hours. Post-mortem examination showed that the posterior nares were completely occluded by a firm membrane. No other abnormality was found. The case, Dr. Ronaldson thinks, illustrates the fact that breathing through the nose is the natural method of performing that function, and that the infant has to learn to breathe through its mouth.

Foreign Substances introduced into the Brain with Impunity.—At a recent meeting of the St. Louis Medical Society (*St. Louis Medical and Surgical Journal*, May, 1881, p. 566) a curious case was described of an insane convict who was in the habit of inserting wires, nails, etc., into his brain through an opening made in the skull by means of an awl. One of the wires was so long that it penetrated the brain-substance completely and struck against the skull on the other side. After the discharge of this convict from prison, he procured some morphia for the purpose of overcoming sleeplessness, and, taking an overdose, died.

A post-mortem examination was made by Dr. Carpenter, assisted by Dr. Sayer, of Leavenworth. In the substance of the brain the following foreign bodies were found: first, a wire four and three-fourths inches in length; second, a wire three and seven-eighths inches long; third, a wire six and three-fourths inches in length; a wire was removed from the middle lobe two and one-sixth inches long; one in the anterior lobe two and three-eighths inches long; a nail removed from the anterior lobe two and one-quarter inches in length; a needle removed from the middle lobe one and five-eighths inches in length. These were encysted in a manner in the substance of the brain, and apparently gave him no trouble whatever.

The patient had shown no psychical peculiarities during life which could be attributed to the presence of foreign bodies in the brain.

Case of Remarkably Low Temperature.—Dr. Walter Mendelson (*New York Medical Record*, June 4, p. 627) gives the case of a man brought into the New York Hospital in a starving condition, extremely emaciated, weak, and almost voiceless. The surface was cool, the hands and feet being cold; the heart-sounds were almost inaudible, and the pulse beat forty-three in the minute; the temperature, taken several times and with two different thermometers, in the rectum, was 90.6° F. He was ordered stimulants by the stomach, with a hypodermic injection of equal parts of brandy and ether. Food was given

gradually, and the patient slowly recovered strength, the thermometer showing a progressive increase in temperature almost hourly until the normal was reached in about twenty hours. There was a tendency to fall, however, which persisted for some days, the thermometer showing 97.5° in the morning, but always rising to the normal in the afternoon. There was no febrile reaction, the highest temperature being 99.6° on the third day after admission. The digestion seemed in no way disturbed, for three days after admission the patient was eating heartily of everything, and was taking cod-liver oil and iron. He soon regained strength, but appeared to be in a state of mild dementia, which persisted during the two or three weeks of his stay in the hospital. His previous history in respect to mental condition could not be ascertained.

Ovariotomy and Parotitis.—It is an established fact that orchitis and inflammation of the parotid may mutually complicate each other. Moreover, there has been observed a relation between inflammation of the salivary gland in question and that of the external genital organs and the ovaries. Facts in support of this opinion are found in the works of Bouteiller, Meynet, Peter, and Billroth. Schroeder, who had never met parotitis as a complication of operations on the female genital organs, has just seen it as a sequel of five ovariotomies, two of which proved fatal (*Il Morgagni*). He comes to the conclusion that parotitis is a grave complication of gynæcological operations.—*Medical Press and Circular.*

Treatment of Frequently Recurring "Erysipelas" of the Face.—Dr. James Braithwaite (*British Medical Journal*, vol. i., 1881, p. 681) says that for many years his father and himself have used with entire success a strong solution of tannin (four to eight grains to the drachm of alcohol and water). This application, which is not disagreeable to the patient, should be painted over the parts affected with a soft brush every two or three hours, and allowed to dry, the patient being careful to keep the face from the fire. If there is a tendency to frequently recurring "erysipelas," it is well to keep the tannin at hand, as it will always arrest a threatened attack.

Unusual Form of Death in Typhoid Fever.—At a recent meeting of the Dublin Pathological Society (*Brit. Med. Jour.*, vol. i., 1881, p. 647) Dr. Hayden showed the small intestines of a patient dying suddenly in the fifth week of typhoid fever. There was congestion of the Peyerian patches and glandular enlargement, but no ulceration. The thoracic viscera were, unfortunately, not examined, but Dr. Hayden thought the death due to pulmonary embolism. The patient, with no unfavorable symptoms but high temperature, was suddenly heard breathing stertorously, and found struggling for breath, and shortly died.

Calamine Lotion.—The following is the formula prescribed by the late Dr. Tilbury Fox:

℞ Levigated calamine, gr. xl;
Oxide of zinc, gr. xx;
Glycerin, ♏xx;
Rose-water to ℥j.

The main point is to get the white calamine, and not the red. It is a very soothing application, and is a great favorite with ladies who have flushed faces. It should be applied with a small, soft sponge, and allowed to dry on, the excess of powder being lightly dusted off with an old pocket-handkerchief.

MISCELLANY.

Preserving-Fluid for Meat.—Wickersheimer has patented a new preservative fluid,—this time for keeping meat. Its composition is as follows: thirty-six grammes of potassa, fifteen grammes of chloride of sodium, and sixty grammes of alum are dissolved in three litres of water, the solution heated to 50° C. (122° F.), and afterwards nine grammes of salicylic acid added, together with forty-five grammes of methylic alcohol and two hundred and fifty grammes of glycerin. In smaller animals, one hundred grammes of the liquid are used for every kilogramme of weight of body; in larger animals, the amount may be reduced to forty grammes per kilogramme. The liquid is either injected before slaughtering, directly into the heart, or, after slaughtering, in the carotid. In the case of neat cattle and hogs, three grammes of saltpetre are added to the above liquid. The preserving power of the latter may be augmented by increasing the methylic alcohol to twenty grammes, salicylic acid to twelve grammes, and glycerin to four hundred and fifty grammes per litre of liquid. The meat may then be preserved two or three weeks entirely without odor.—*British Medical Journal*, vol. i., 1881, p. 680; from *Chem. Zeit.*

Medicine and Fiction.—The *British Medical Journal* calls attention to a recent French novel of which a hospital interne is the hero. M. Jules Claretie's work is entitled *Les Amours d'un Interne*. The hero is deeply attached to a young lady who has become a ward-maid in *La Salpêtrière* in order to wait upon her mother, obliged through poverty to become an inmate of that institution for the relief of hystero-epilepsy. The heroine, in love with another gentleman, unwittingly asks her lover the interne whether she may marry without danger of transmitting insanity, and thus the plot is evolved. Various scenes of a most exciting character are depicted, with the aid of Charcot's writings, etc.

A New Pair of Siamese Twins.—The *Wiener Med. Presse* contains an account of the brothers Tocci, born near Turin in 1877.

These creatures have two heads, two pairs of arms, and a double thorax with independent thoracic organs. From the sixth rib down, however, they have one body in common,—a single abdomen, a single umbilicus, one anus, one right leg, and one left leg. The genital organs comprise a penis and scrotum, but the rudiments of a second masculine genital organ can be discovered posteriorly, which occasionally permits a small portion of urine to escape. Viewed from behind, there are two separate vertebral columns, two sacrums, and three buttocks, of which the middle one is merely the result of union of the other two and contains a rudimentary anus. One anus serves both infants. The right leg is under the control of one twin, and the left, which is clubbed, of the other. Though well and strong, they cannot walk on this account. The personality of each infant is distinct; one cries or sleeps while the other may laugh or be awake. They are gay and lively with each other and with strangers. The heads usually lean one to the left, the other to the right, but one at a time may place the head in a perpendicular position, provided the other leans over a little more horizontally.

The *Réveil Médical*, from which we take this account, gives a picture.

A NEW TEST OF INTELLIGENCE.—The Parisian scientist Dr. Delaunay has made the curious discovery that to ascertain the qualities of a cook it is sufficient to give her a plate to clean, or sauce to make, and watch how she moves her hand in either act. If she move it from left to right, or in the direction of the hands of a watch, you may trust her; if the other way, she is certain to be stupid and incapable. Similarly, the intelligence of people may be gauged by asking them to make a circle on paper with a pencil, and noting in which direction the hand is moved. The good students in a mathematical class draw circles from left to right. The inferiority of the softer sex (as well as of male dunces) is shown by their drawing from right to left; asylum patients and children do the same. In a word, *centrifugal* movements are a characteristic of intelligence and higher development; *centripetal* are a mark of incomplete evolution. A person, as his faculties are developed, may come to draw circles the opposite way to what he did in youth. Dr. Delaunay has some further extraordinary conclusions as to the relative positions of races in the scale of development from the way they wind their watches and make their screws.—*Journal of Chemistry.*

THE PLAGUE.—This scourge has been ravaging the banks of the Lower Euphrates and the villages of Mesopotamia. Quarantine against it has been declared by the Egyptian authorities. In spite of this it is said already to have crossed the Mediterranean, and one or more deaths from it have been reported at Seville, Spain. The littoral cities of Southern Europe are by no means in such superior sanitary condition that all danger is averted of another experience such as Marseilles had in 1722.

THE NEW FRENCH SCIENTIFIC JOURNAL.—The Minister of Public Instruction has determined to publish a new scientific journal, under the title of *Revue des Sciences.* It is to be printed at the National Printing-Office, and sold as cheaply as possible. A number, containing about one hundred pages, will appear every month. Professor Milne-Edwards is to be the editor of the review, the object of which will be to give an analysis of all the scientific work done in France during the current year.

Qu. Quid est creare? (*What is creating?*)

Ans. E nihilo facere. (*To make out of nothing.*)

Rej. Bene; te doctorem nunc creavimus. (*Very well; we now create you a doctor.*)—*Exchange.*

PERFUMED CARBOLIC ACID is a solution of the acid in alcohol, with oil of lemon added. The proportion is: carbolic acid, 1; oil of lemon, 3; alcohol, 100.

NOTES AND QUERIES.

REMOVAL.

The personal address of Dr. H. C. Wood, Editor, will hereafter be 1925 Chestnut Street, instead of 1631 Arch Street.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM JUNE 12 TO JUNE 25, 1881.

HARTSUFF, A., MAJOR AND SURGEON.—To proceed to the Cantonment on the Uncompahgre, Col., and report for duty to Col. R. S. Mackenzie, Fourth Cavalry, commanding. S. O. 113, Department of the Missouri, June 8, 1881.

MIDDLETON, J. V. D., MAJOR AND SURGEON.—Having reported in person, is assigned to duty at Fort Hays, Kans., relieving Assistant-Surgeon Munn. S. O. 122, Department of the Missouri, June 21, 1881.

GARDNER, W. H., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for four months on surgeon's certificate of disability. S. O. 138, A. G. O., June 18, 1881.

MUNN, C. E., CAPTAIN AND ASSISTANT-SURGEON.—When relieved by Surgeon Middleton, to proceed to Fort Bayard, N.M., and report to the Commanding Officer for duty. S. O. 122, c. s., Department of the Missouri.

DE WITT, C., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for four months. S. O. 137, A. G. O., June 17, 1881.

TORNEY, G. H., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for one month, with permission to apply for an extension of one month, to take effect when relieved by Assistant-Surgeon A. W. Taylor. S. O. 122, Department of the Missouri, June 21, 1881.

TAYLOR, A. W., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—To proceed from Fort Supply, Ind. Ter., to Fort Lyon, Col., and report to the Commanding Officer for temporary duty. S. O. 122, c. s., Department of the Missouri.

PHILADELPHIA, JULY 16, 1881.

ORIGINAL COMMUNICATIONS.

GONORRHŒAL PROSTATITIS.

BY CHARLES L. MITCHELL, Ph. D., M.D.,
Professor of Chemistry, Sanitary Science, and Venereal Diseases in the Medico-Chirurgical College of Philadelphia.

OF all the complications attending the course of an attack of true specific urethritis, there is none to be more dreaded by the practitioner than the extension of the inflammation to the region of the prostate gland. Here, from its situation, and the difficulty of applying the proper remedial agents, the disease is prone to lurk for an indefinite period, and often leaves as a sequel a permanent irritability and hypertrophy of the gland.

Gonorrhœal prostatitis arises, as its name implies, from the direct infection of gonorrhœal matter. This may occur in various ways. The urethritis may be so severe as to implicate rapidly, by extension of the inflammation, the deep as well as the anterior portion of the urethra; or the prostatitis may be produced by the use of instruments during an acute attack of gonorrhœa, they carrying with them the virus and depositing it in the prostatic portions of the channel. Again, it is asserted by some to be produced in the same manner by the use of injections. I believe this latter, however, to be a very rare cause of the disease, as the contraction of the cut-off muscles of the urethra which would be produced by the irritation of any liquid injected, is generally sufficient to make them the limit of the fluid. The most frequent cause is probably the first-named, as gonorrhœal prostatitis occurs only in those violently inflammatory cases of "clap" in which the morbid process would tend to spread rapidly.

The first signs of the extension of the inflammation to the prostatic region are a marked diminution in the quantity of the discharge, and an increasing desire to pass water, attended with much pain. This pain is very peculiar, somewhat resembling that occasioned by the presence of stone in the bladder, and is very characteristic of the disease. As the urine commences to flow, there is felt a sharp, cutting, burning sensation in the deep urethra; this increases, running down along the channel, until it reaches its point of greatest intensity at a spot on the under side of the urethra, in the penis, about three-fourths of an inch from the meatus. At the close of the act of urination, the muscular fibres of the bladder contracting upon the tender and inflamed prostate, give rise to the sharpest cutting and scalding pains.

As the disease increases, the calls to urinate become more and more frequent, and the patient is now obliged to relieve himself every ten or fifteen minutes. The urine is very acid, high-colored, and turbid, with a thick sediment of muco-pus. The stream is quite small, has very little force, and is apt to spirt out and scatter in all directions as it leaves the urethra: should there be much enlargement of the prostate, it will slowly escape drop by drop and partial retention ensue. If, with this condition of affairs, there is any implication of the vesical neck (which is not unfrequently the case), micturition is attended with uncontrollable spasms of violent straining, often accompanied with the passage of blood or bloody mucus. Otherwise there is not the same amount of vesical tenesmus which is present in acute cystitis, but the flow of urine is obstructed by the swollen gland, and the calls to urinate are frequent and urgent, simply because the bladder is never fully emptied of its contents, and a short time suffices for its distention. Sometimes, as before stated, complete retention of urine will result from the enlargement of the gland, requiring the use of the catheter. When this is introduced it meets with an obstruction in the prostatic urethra, and before entering the bladder its point deviates to one side or the other, indicating an enlarged condition of the gland in the opposite direction. Should the middle portion of the gland be affected, the introduction of the catheter may require some force, and, indeed, in some cases become impossible. Again, the normal curve of the urethra may be so much altered by the enlargement of the gland that a stiff instrument of the usual curve cannot pass into the bladder, and a Mercier's *sonde coudée*, or a flexible soft rubber catheter, will be requisite. The patient complains of a feeling of fulness in the rectum, causing a constant desire to defecate, although the bowels are constipated. In the more severe cases every attempt at urination, being followed by the straining

before alluded to, causes the involuntary evacuation of a small quantity of hardened fæces. These efforts are followed by sharp pains in the rectum, and there is constantly felt a dull, deep-seated, throbbing pain in the perineum, with occasional sharp exacerbations radiating outward from that region. Examination with the finger, per rectum, reveals a hot and enlarged prostate, very tender to the touch. Both rectal and urethral explorations cause much suffering to the patient. All these symptoms are attended with some constitutional disturbance, such as fever, headache, loss of appetite and sleep, restlessness, and irritability of temper. The patient is in a truly deplorable condition, for he can neither lie, sit, nor stand in any comfortable position, while the incessant and painful calls to urinate are sufficient to prevent him from sleeping, eating, or keeping quiet. This condition of affairs continues for a longer or shorter period of time. Sometimes in a few days resolution will take place, and the symptoms will rapidly subside, at the same time the discharge reappearing. At other times the process will go on to suppuration, and prostatic abscesses will result, involving either a part or the whole of the gland. This process is indicated by the pains becoming less throbbing and more of a lancinating character, and the occurrence of a sharp chill, or a series of rigors. When the abscess bursts, should it be into the urethra, it will be indicated by a discharge of pus, and the painful symptoms will immediately disappear. Should it, however, empty itself into the surrounding tissues, it may burrow among the tissues of the peritoneum, or still more rarely into the pelvis, giving rise to local and then general peritonitis; or it may point downward and outward, giving origin to permanent fistulæ. Sometimes, where the purulent material is small, it may never point, but with the subsidence of the inflammation be gradually absorbed, leaving behind a calcareous mass of a size proportionate to the quantity of pus which it represents. These concretions are rarely discovered until after death, and are not generally of a size to interfere with the functions of the gland. Should the whole of the gland be involved in the suppurative process, the result is fatal, the patient generally dying of purulent infection.

In other cases, instead of undergoing either resolution or suppuration, the inflammation may slowly pass into a chronic prostatitis, with a constant gleety discharge and more or less hypertrophy of the gland. These are the cases which so torment and baffle the urethral surgeon, as they are very rebellious to treatment, and require all the patience of both physician and patient.

The chief disease with which gonorrhœal prostatitis is apt to be confounded is acute cystitis arising from the same cause. It is extremely difficult, as a general rule, in acute cases arising from gonorrhœa, to make a positive diagnosis between these two diseases, as, owing to the continuity of surface, it is not long before the inflammation of a prostatitis extends to the neck of the bladder. The following table by Fournier will exhibit the main points of difference:

Cystitis of the neck of the bladder.	*Prostatitis.*
1. Characteristic *vesical* tenesmus; frequent and imperative desire to urinate.	1. Vesical tenesmus much less. *Rectal* tenesmus more marked.
2. Micturition especially painful with the passage of the last drops of urine, when there is a characteristic convulsive contraction.	2. Nothing similar.
3. Towards the close of micturition, excretion of a thick fluid,—a mixture of pus and blood; often also of pure blood.	3. Nothing similar.
4. Mere perineal sensibility; pains radiating towards the anus much less violent than in prostatitis.	4. Deep perineal pain, very acute, increased by motion, defecation, etc.
5. Prostate normal.	5. A very hard, sensitive prostatic tumor is felt on rectal examination.
6. No retention of urine.	6. Dysuria. Retention of urine.
7. Few or no general symptoms.	7. General symptoms marked; fever, loss of appetite, etc.

The prognosis of gonorrhœal prostatitis is generally favorable, although, should the inflammatory process extend to suppuration, the opinion should be more guarded, as fatal cases have frequently resulted.

Treatment.—The first and most important step in the treatment of gonorrhœal prostatitis should be rest in bed for

the patient; and he should distinctly understand that this is absolutely necessary in order to successfully combat the disease. In many cases there will be trouble in enforcing this, for, from the nature of the complaint, he is desirous of concealing his trouble from his family or friends, and hence may strongly object. The physician, however, should insist on his point, and, with regard to the feelings of his patient, administer a placebo to the family, stating that the sufferer has "kidney disease," or "gravel," which latter word will often cover a multitude of sins.

The diet should be of the mildest character, and should comprise milk, farina, corn-starch, soft-boiled eggs, etc., everything of an irritating or stimulating nature being avoided. I have found ice-cream to be very grateful and refreshing to the patient, and not to cause any after-disturbance. All acids and acid drinks must be forbidden, and the quantity of liquids allowed be moderate. No tea or coffee must be given; although a single cup of warm chocolate may be allowed in the morning.

The pain is sometimes much relieved by the hot sitz-bath, and during the interval the perineum may be covered with fomentations. In place of this orthodox treatment, the method recently proposed, of introducing small pieces of ice into the rectum, may be tried should the first procedure fail. I have, in one case in particular, given great relief to the deep throbbing pain in the perineum by the application of a large mineral-water bottle, filled with ice-water and loosely wrapped in a towel, placed between the legs and against the perineum.

The testicles should be supported in a suspensory bandage, so as to make as little strain on them as possible, and prevent the extension of the inflammation to the epididymis.

Internally, such remedies should be used as will render the urine bland and of a non-irritating character. The alkalies, potassa and soda, are mostly used, in the form of the carbonates and bicarbonates, the citrates, acetates, and tartrates. All these salts, when taken into the system, are decomposed, the alkali being liberated. These should be combined with anodynes, such as opium, hyoscyamus, belladonna, etc. A favorite prescription of Bumstead's is—

℞ Potassii bicarbonatis, ʒj;
Tincturæ hyoscyami, fʒj;
Mucilaginis, fʒvij.

M. et Sig.—A teaspoonful every four hours.

I have not derived as much benefit from this and several other standard formulæ as others may have done. I have used the following with great success in the treatment of the acute stage:

℞ Potassii nitratis, ʒij;
Morphiæ sulphatis, gr. ij;
Syrupi acaciæ, fʒj;
Aquæ camphoræ, q. s. ad fʒvj.

M. et Sig.—Tablespoonful every three hours.

The potassium nitrate acts as a cooling sedative to the bladder and urethra, producing slight diuresis, while the morphia and camphor diminish the constant desire to micturate.

To be properly successful in relieving the pain on urination, the urine must receive constant attention, and be always kept either neutral or slightly alkaline. For that purpose, it should be carefully tested for acidity each day with litmus paper, and the quantity of alkali varied accordingly. I do not think that the large quantities of diluent drinks, flaxseed tea, etc., constituting the regulation treatment of the text-books, are very beneficial, and am rather disposed to object to them; for, although the urine is diluted and rendered less irritating, yet the *quantity* is so much increased that the patient is caused to micturate much more often than is really necessary. It is much better, while not stinting the patient in his drink, to see that the quantity consumed is moderate, and then to administer a remedy which will render the urine alkaline without largely increasing its secretion. Such an agent may be found in the officinal liquor potassæ, but as ordinarily administered it will fail of its purpose unless given in very large doses. A method recommended by Prof. E. L. Keyes, in his recent work on venereal diseases, I have slightly modified and used with perfect success. It is as follows:

℞ Liq. potassæ, fʒss.

Sig.—Give ten drops in a half-tumbler of water, *three hours after each meal.*

When administered in this manner,—three hours after each meal,—the stomach being empty, the greatest amount of therapeutic effect is obtained from the least

amount of the drug. As medicines are usually taken by patients either before or just after a meal, the secretion of acid produced by the alkali is much greater, and the result of the drug upon the blood much diminished. This quantity—ten drops—will generally be sufficient to keep the urine neutral, although, should it still be acid, the quantity may be increased to fifteen or twenty drops without harm.

The vesical spasm is best counteracted by the use of rectal suppositories of ext. opii aq., gr. j; ext. bellad., gr. ¼, used every few hours. Should the belladonna disagree with the patient, two grains of extract of hyoscyamus may be used in its place. A still better formula is as follows:

℞ Camphoræ, gr. x;
Chloralis hydrat., gr. xx;
Morphiæ sulphatis, gr. ij;
Ol. theobromæ, q. s. ft. suppositoriæ no. x.

Sig.—One every three hours until spasm is relieved, then one night and morning.

I rather prefer gelatin to cacao butter as a basis for these suppositories, as it makes a more consistent preparation, not so liable to melt in the fingers. It is rather more difficult, however, for most physicians to obtain them of this material. I have found these suppositories also an excellent remedy in aggravated cases of chordee.

By the use of these three remedies, as above given, the patient can be kept comparatively comfortable until all acute symptoms are past. Should there be retention, it may be relieved by hot hip-baths, or a catheter should be regularly used every five or six hours and the bladder thoroughly emptied, as by this latter means the desire to micturate can be greatly avoided.

Much care should be exercised in the selection of the instrument, and one chosen which will give the least pain. The stiff metal catheter is very objectionable, as it generally requires force to pass it through the urethra closed by the swollen prostate, and it should never be used when it is possible to obtain another instrument. The English waxed cloth catheter is almost as bad, and so is the black rubber instrument of Delamotte, for they are not soft and compressible, and the eye is so sharply cut out as to catch in some of the mucous folds of the passage upon its withdrawal, and cause considerable irritation and pain. The best instrument for the purpose is undoubtedly the soft rubber, "velvet eye" catheter, made by Tiemann & Co., of New York, a cut of which is annexed.



VELVET EYE.

The eye of this instrument is perfectly smooth, the edges being bevelled, and consequently is not likely to catch on its withdrawal, and the softness and compressibility of the rubber render its use comparatively painless.

Should the disease terminate by resolution, all acute symptoms gradually disappear, and the discharge will again appear at the meatus. This should be assisted by the administration of the oil of turpentine, in doses of from five to ten drops three times daily, carefully avoiding the vesical irritation occasioned by too large doses. Or copaiba, or the oleoresin of cubebs, may be substituted in proper doses. This latter is highly recommended by Keyes, and I can testify as to its value. The patient must avoid all excesses and exposure for some time, as a slight cold will often produce a renewal of the acute symptoms.

Should the disease terminate in suppuration, and abscesses form, as soon as fluctuation can be felt by the finger in the rectum they should at once be punctured through the intestinal wall. Tarnowski and Didier prefer an opening carefully made through the perineum, so as to avoid communication with the rectum and the entrance of fecal matter into the cavity of the abscess. When the collection of matter points towards the urethra, it may sometimes be relieved by the introduction of a conical sound as far as the rectum, while a finger in the rectum presses the point of the instrument against the tumor. This operation requires great care, and should never be employed unless the symptoms are urgent. Where a large cavity in the prostate is left behind by the evacuation of an abscess, it may be washed out daily with a very short beaked silver catheter, having its eye near the tip, and after the washing injected with some astringent solution to stimulate granulation. A very convenient instrument for this purpose is one which I

will describe when speaking of the treatment of chronic troubles. Rectal and urinary fistulæ, should they occur, must be treated according to the laws laid down for such cases. After the abscess has once been emptied, relief is generally prompt, and a cure often results from the unaided efforts of nature.

The most annoying termination of gonorrhœal prostatitis is the chronic form. In this there is left, as a sequel of the acute affection, a hypertrophy of the gland, with chronic inflammation of its mucous surfaces and ducts and of the follicles and ducts of the sinus pocularis. This affection, designated by the elder Gross as "*prostatorrhœa*," is the annoyance of all urethral surgeons, for it does not readily yield to treatment. Its chief symptoms are dragging weight and pains in the perineum, increased by walking and sitting with the legs crossed, while any sudden jar or muscular exertion, such as taking an unusually long step or stepping down suddenly from a height, gives a marked increase of pain. There is a slight mucoid or muco-purulent discharge from the urethra, apt to be aggravated by a passage at stool, the patient usually believing the discharge to be semen. It does not contain semen, but is muco-purulent, full of fatty débris, leucocytes, epithelium, and often prostatic concretions. The frequency of micturition is more or less increased, the urine being expelled without much force and in a fine stream, the last drops often dribbling away, and the whole act attended with considerable urethral pain, felt particularly in the prostatic region. An examination with an instrument reveals great hyperæsthesia of the prostatic urethra, and after its use the symptoms of the patient are apt to be temporarily aggravated. Together with this there are many nervous symptoms, the patient being irritable, low-spirited, and despondent. Sexual intercourse is generally impossible, each act being attended with so much pain and aggravation of the symptoms as to deter the patient from its indulgence. Nocturnal emissions are not uncommon, being incited by the congested and hyperæsthetic condition of the gland.

The treatment of this affection is greatly aided by hygienic means, as the patient is generally debilitated from the effects of the previous acute attack. A moderate amount of exercise in the open air is to be advised. The diet should be nourishing, but not stimulating, and of such substances as will be neither difficult of digestion nor apt to leave a bulky residue of fecal matter. An essential point is that the bowels be emptied regularly, so that the contents of the distended rectum shall not press on the congested gland and thus aggravate the symptoms. The patient should, therefore, before breakfast every morning take a small glass of the Hunyadi János, Friedrichshall, or any other laxative mineral water, so as to keep the bowels in a soluble condition and cause from one to two evacuations daily. This will also tend to diminish the congested condition of the gland. He should sleep on a hard mattress, with no more cover than is absolutely necessary, and should be careful to empty the bladder before going to bed, so as to avoid as much as possible nocturnal emissions.

As a tonic having special benefit in this trouble, Bumstead speaks highly of the following:

℞ Strychniæ, gr. jss;
Acidi phosphorici dil., f℥iv.
M. Sig.—Teaspoonful three times a day.

The tinct. ferri chloridi of the U.S.P., in doses of gtt. xx three times daily, may be used to advantage.

The best results in treating this affection are undoubtedly obtained by the use of local remedies, applied either directly to the part, or indirectly by means of the rectum; in the latter place, from its close proximity to the prostate, the remedies having nearly as much effect. They may be used in the form either of a solution, or of rectal or urethral suppositories. Solutions may be applied by means of the deep urethral syringe, of which there are several different designs to be found at the instrument-makers'. The urethral suppositories may be applied to the desired part by means of an instrument which I have described at length in an article published in the *New York Medical Record* (December 25, 1880, p. 722), and which I will briefly mention here.



It consists of a canula ten inches long, the size of a No. 20 sound (Fr. scale), bent to a Thompson's curve, and graduated to a

scale of inches, commencing at the vesical extremity. Through this tube plays a flexible steel stilette, tipped with a probe-point, and forming, when fitted into the tube, a rounded and smooth extremity. To use the instrument, the stilette is slightly withdrawn, a suppository or short bougie placed in the extremity of the canula, so that about one-third will project from the end, and then the instrument, well oiled, passed gently into the urethra until the graduated scale shows it to have reached the depth desired. By a slight pressure with the stilette the suppository can be ejected into the urethra. The suppository or bougie to fit this instrument is about half an inch long, and can be made of either cacao butter or gelatin, medicated with the remedial agents I will presently mention. This method of procedure gives the benefit of a direct and prolonged action of the medicating ingredient.



It will sometimes happen that, owing to the highly-congested condition of the prostate, the urethra will not well tolerate the use of the instrument, and the suppository will be apt to act as a foreign body, and by its presence cause an aggravation of the symptoms. If this occurs, all instrumental interference must be stopped, and the gland allowed several days to regain its previous condition, being assisted, if necessary, by the effect of anodynes and sedatives, administered per rectum by means of suppositories.

Any of the following formulæ may be found useful:

(A) Ext. opii. aq., gr. j; ext. belladonnæ, gr. ½.

(B) Iodoformi, gr. ij; ext. belladonnæ, gr. ½.

(C) Iodoformi, gr. v; ergotini, gr. v; ext. belladonnæ, gr. ½.

(D) Morphiæ acet., gr. ¼; camphoræ, gr. j; chloral. hydrat., gr. ij.

(E) Ergotini, gr. v; morphiæ sulph., gr. ¼; ext. gelsem. fld., gr. v.

These will also form excellent adjuncts to a protracted course of treatment by the urethral suppositories, B, C, and E being extremely valuable in diminishing the congestion and hyperæsthesia of the gland.

With a view of successfully treating these particular cases, I have devised the following little instrument, taking my cue from an article by Dr. W. Thornton Parker, of Plymouth, Massachusetts, published in the *Boston Medical and Surgical Journal* for March 3, 1881. It has been very carefully made for me by Messrs. Tiemann & Co., of New York.

It consists of a tube of soft rubber eight and one-half inches long, the size of No. 14 Fr., terminating in a bulb the size of a No. 20 sound, Fr. scale. This bulb is perforated around its circumference with five small holes placed at the rear of the bulb and directed in such a manner that a liquid forced through the tube will be ejected backward in all directions. The orifice of the tube is made of such a size as will admit the end of an ordinary urethral syringe. This syringe is unnecessarily large for the purpose, and I find that the hard-rubber syringe No. 00, capacity



one-eighth ounce, made by the American Rubber Company, answers the purpose admirably. The softness and flexibility of this tube allow it to be passed into the most tender urethra with comparatively little pain, while the bulb and the backward direction of the stream prevent any portion of the injection from entering the bladder. When used, it is to be well oiled and slipped gently down the urethra until it reaches the affected region. The syringe, full of liquid, is next to be attached, and the injection forced gradually out by means of a gentle pressure on the piston. The presence of a fluid does not occasion the same amount of irritation here as does that of a suppository, and the instrument is consequently well adapted to those cases where the latter would be inadmissible. The quantity of liquid indicated by the capacity of the syringe—one-eighth ounce—will be amply sufficient; and even less may be used. This instrument, when used with a larger syringe, is well suited for washing out the prostatic urethra in the cases of abscess before mentioned.

I will now indicate some combinations of remedies which I have found to be particularly useful, and which can be used

either in the form of suppositories or as injections.

In cases with much pain and hyperæsthesia, but with little or no discharge:

(A) Morphiæ sulphatis, gr. ¼.

(B) Ext. gelsem. fld., gr. v; ergotini, gr. j; morphiæ sulph., gr. ¼.

(C) Ext. hyoscyami, gr. j; ext. belladonnæ, gr. ½.

(D) Iodoformi, gr. j; ext. belladonnæ, gr. ½.

(E) Acidi carbolici, gr. ½; liq. iodinii comp., gr. j.

In cases where there are both pain and free discharge:

(F) Zinci sulph., gr. j; ext. hydrastis fld., gr. ij; ext. belladonnæ, gr. ½; ext. opii aq., gr. ½.

(G) Zinci sulph., gr. j; ergotini, gr. j; ext. gelsem. fld., gr. v.

(H) Zinci sulph., gr. j; acidi carbolici, gr. ⅛; morphiæ sulph., gr. ¼.

In cases where there is not much pain and the discharge is of a mucoid character:

(I) Ext. hydrastis fld., gr. v.

(J) Zinci sulphatis, gr. j; acidi carbolici, gr. ⅛; ext. hydrastis fld., gr. v.

(K) Zinci sulphocarb., gr. j.

These injections should be made with a small quantity of warm water. The extract of hydrastis used should be made with a menstruum of glycerin and water, thus avoiding the irritating resin of the root.

By a steady persistence in this plan of treatment, accompanied with the occasional cautious introduction of a steel sound, some of the most hopeless cases may be benefited and often cured. The remedies I have above indicated are but an outline of those that can be used, and which will commend themselves to the use of the physician.

The nitrate of silver, in the form of a concentrated solution (twenty to forty grains to the ounce of water), of which from five to fifteen drops may be used, has been considered by some very high authorities as a valuable remedy, but its action is very harsh, and I am inclined to leave it as a *dernier ressort*.

839 Race Street, Philadelphia.

Billroth's Latest Operation.—The *British Medical Journal* says that Billroth recently did another resection of the pylorus, and also burnt off a piece of the liver with Paquelin's cautery. This piece of liver was inseparably adherent to the carcinoma. "So far all goes on well," said the professor, four days later.

ALCOHOL: ITS THERAPEUTICAL USES, INTERNALLY AND EXTERNALLY.

Read before the Philadelphia County Medical Society, April 27, 1881,

BY ROBERTS BARTHOLOW, M.D.

OF the general subject—alcohol—there has been assigned to me for this discussion its therapeutical uses, less the uses of malt liquors.

I have, therefore, to consider alcohol in the form of spirits,—whisky, brandy, gin, etc.; of wines, still and sparkling, light and heavy, sweet and dry, grape-juice and artificial, pure and fortified, etc. All of these agree in the presence of alcohol in varying proportions, but differ in respect to certain constituents, natural or factitious, and peculiar to each variety. It is obvious, therefore, that the question of the uses of alcohol is complicated by the numerous forms and combinations in which this substance enters the organism of man. In the short time allowed me I can do no more than present a syllabus of the subject,—state, merely, a series of propositions.

Alcohol may be used as a stomachic tonic and to increase the activity of those functions included under the primary assimilation, as a cardiac and arterial stimulant, as an antipyretic, as an antiseptic, as an anodyne, and as a styptic and astringent. Besides these points we must consider whether it shall be given or withheld in mania a potu, or acute alcoholic delirium, and in delirium tremens. The subject may be best studied in this order.

I. As a stomachic tonic alcohol is effective only in the case of those not habituated to its use. As pepsin is not only precipitated by alcohol from its solution in the gastric juice, but is also rendered inactive as a ferment, to employ this agent as a means of promoting digestive activity is apparently paradoxical; but the explanation lies in the fact that it is a concentrated solution which acts thus on the pepsin. We obtain two points of practice from this statement,—to give alcohol properly diluted; to stimulate digestion, administer the remedy immediately before meals: for the action of alcohol as a stomachic tonic consists in the power it has to cause a prompt congestion of the mucous membrane, and the increased activity of the gastric glands is a necessary consequence. That in time a catarrhal state of the mucous membrane is pro-

duced, and a pathological secretion obtained, shows us the impropriety of the long-continued use of alcohol as a stomachic tonic, and explains why such a therapeutical effect is not the result of its administration in the subject of alcoholism.

In the atonic dyspepsia of the sedentary and the feeble digestion of the convalescent, alcohol is useful in a high degree. The particular form of the remedy must vary with the peculiarities of each case. A wine of good body and decided bouquet has been found very efficacious in the weak digestion of literary and nervous sedentary persons. In the case of the convalescent, a spirit is preferable to a wine, and whisky or brandy is prescribed according to individual tastes, partly, and the state of the intestinal canal,—the former having a somewhat laxative, and the latter astringent, action. The quantity taken is determined by several considerations,—by the amount of stimulation beneficial to the organs, by the effect as manifested in the circulatory and nervous systems, and by the degree of elimination. To the literary and nervous invalid class, the wine proposed is especially grateful, and they are responsive in a high degree. As the wine is to play the part of both stimulant to the digestive organs and a food of the nervous tissue, the best results are had from a generous wineglassful taken during the principal meal. The kind of wine selected is determined by several considerations. If the organs simply require stimulation, a good, dry sherry or Burgundy may be best adapted to the case; if an excess of acid be present, due to the fermentation of the saccharine and starchy foods, a sweet wine is objectionable, but then an acid Rhine wine of high alcoholic strength—as, for example, the Forster Riesling—may be serviceable in a remarkable degree. For the weak digestion of convalescence, it is well known that a considerable quantity of spirit is borne well and required. In both groups, but in an especial degree in the nervous and depressed invalid, the effect of alcoholic stimulation is peculiarly grateful and seductive: hence the danger of the alcoholic habit, and the need of circumspection in prescribing a remedy which may be so abused.

When alcohol is used to promote the nutrition in general, it should be administered during and after meals, to obtain at the same time the effect due to stimulation of the gastric glands and the force derived from the oxidation of the remedy, whence it becomes in a certain limited sense a food. The amount required in wasting diseases—as in chronic suppuration and in phthisis—will be more, and it will be better borne, than in other chronic maladies of a depressing kind; but in all chronic maladies the amount required is limited by two facts: 1. A small quantity will stimulate the digestive organs without injuring the pepsin; 2. Only a small quantity can be oxidized, and therefore utilized as force. It follows that it is useless to attempt, by increasing quantity, to overcome the inertia of the nutritive functions. Anstie, in the course of his well-known researches on the disposition of alcohol in the organism of man, found that beyond a certain small amount,—two or three ounces of absolute alcohol,—that which is taken is eliminated unchanged.

Applying these principles to phthisis,—which may serve as an example of a large group of maladies,—we may consider how and to what extent alcohol may be used in this disease. A notion prevails more or less widely among the laity, shared to some extent by the profession, that alcohol is in a certain sense a prophylactic and curative agent in consumption. By some physicians, amylic alcohol is held to possess these powers. That these notions are not well founded is proved by the fact that so many subjects of chronic alcoholism die of phthisis. That beneficial results are obtained by the judicious use of alcohol is equally true. The questions for us to consider are, how much alcohol is necessary, and what are the conditions of its use in consumption. The principles which I have already laid down are perfectly applicable. It is an axiom that when alcohol improves the appetite and increases the body-weight it is doing good. The quantity of alcohol sufficient to stimulate the gastric glands, and yet short of the strength necessary to precipitate the pepsin, is the proper quantity. As the alcohol eliminated by the various channels of excretion is in excess of the oxidizing powers of the organism, no benefit can result from such a quantity. It is obvious from these considerations that the best results are derived from half an ounce to an ounce of whisky or brandy, taken during or immediately after meals; for thus the stomachic tonic effects

and the force-value of alcohol as a food are obtained. The now almost universal use of whisky with cod-liver oil is based on sound principles, unless, as is sometimes done, the mixture is given an hour or two before meals, which must have a disastrous effect upon the appetite and the digestion.

That there is any specific action of alcohol in consumption—that alcohol has an influence apart from its stomachic tonic effects and as a hydro-carbonaceous food—cannot for one moment be entertained. We may therefore dismiss the purely groundless assumption that amylic alcohol has some special virtues.

The use of alcohol in acute wasting diseases must come up hereafter.

In certain diseases of the digestive tube, alcohol in its various forms is highly useful. All the world knows that sometimes obstinate vomiting, not dependent on inflammation of the stomach, may be promptly checked by a tea- to a tablespoonful of raw brandy. In the vomiting of uræmic intoxication, and especially of yellow fever, a dry champagne or our native sparkling wine may be very successful. A simple diarrhœa may be checked by brandy. Not to waste time in the recital of these trivial and well-known therapeutical properties, I pass on to the fact that in cholera infantum we have in brandy the most generally efficient curative agent. It is generally known, I believe, that infants bear a relatively larger quantity of alcoholic stimulants, but it is not known that large doses of brandy are singularly efficacious in the disease just mentioned. I have given half a teaspoonful to a teaspoonful of cognac brandy every three hours to a child under one year, and above that to three years one to two teaspoonfuls. It should not be given with milk, but in water as warm as possible, and as remote from the time of food-taking as possible.

II. As a cardiac and arterial stimulant, alcohol is probably more frequently used than for any other purpose. It may be well entitled "the remedy of paradoxes." It is employed in states of depression to give warmth to the surface and to increase the action of the heart and arteries, and in states of excitement of the vascular system and elevation of temperature it is used to lower both. This seeming paradox is readily explained; but the explanation must be reserved.

Alcohol is indicated when from any cause the action of the heart and of the arterial system is depressed suddenly and powerfully. The sudden failure of the heart from moral causes, from shock, from hemorrhage, from weakness of the cardiac muscle, are conditions in which alcohol is indicated, and in which it is used with advantage. There are two explanations of its power to elevate the heart and the vascular tension. The first is reflex. It is within the range of everybody's experience that as soon as a tablespoonful of whisky or brandy reaches the stomach the heart at once moves more rapidly,—that is, the impression made on the end organs of the pneumogastric in the stomach reaching the pneumogastric nucleus, the inhibition exercised by the nerve relaxes, and the accelerator apparatus exercises its power with lessened hindrance. That this explanation applies with much probability is rendered more certain by the fact that the action of the heart is simply increased by alcohol; in other words, that the diastolic interval is shortened by its influence. The second explanation of the power of alcohol to increase the rate of the heart's movements is that by its oxidation force is generated, which is utilized by the cardiac ganglia. There are other substances, of course, which also yield force; but alcohol has the distinct advantage that its combustion occurs with more readiness than any other available substance. But we shall find hereafter that alcohol in large quantity depresses the circulation. Now comes the explanation of the apparent paradox. Whilst small doses stimulate the circulation, large doses have the opposite effect; therefore, our conclusion is, to overcome cardiac depression the stimulant must be administered in small quantity, but frequently. In many cases, a wine of good body, highly charged with œnanthic and other ethers, is preferable to a spirit.

At this point we should endeavor to arrive at some positive conclusion in regard to the administration of alcohol in preparation for the apprehended cardiac depression of the anæsthetic state, or to relieve it. Prof. H. B. Sands, M.D., of New York, has followed the practice for several years of inducing alcoholic intoxication as a preparation for the administration of ether or chloroform and to prevent shock. It is always inculcated to administer an ounce or two of whisky as a preliminary to the anæsthesia and to the

operation. This may or may not be good practice. It is good practice if the heart is sound and the full anæsthetic state is desired; it is bad practice if profound and protracted anæsthesia is not necessary, and if any cardiac weakness exist; for, alcohol being the source whence the anæsthetics are obtained, and a congener as regards their action on the nerve-centres and on the vascular apparatus, it must intensify their effects. The theoretical deduction is abundantly confirmed by clinical experience. In a recent discussion before this Society, our learned colleague Dr. Turnbull strongly criticised the subcutaneous injection of alcohol in the case of lethal symptoms caused by ether, and he was sustained by the eminent therapeutist Prof. H. C. Wood, and myself.

To inject brandy or whisky subcutaneously with a view to stimulate the respiratory and cardiac centres in chloroform or ether narcosis is therefore improper,—contributes, indeed, to the fatal result.

III. The antipyretic effects of alcohol involve more doubtful questions than those therapeutical effects heretofore considered, but the weight of authority is unquestionably in favor of the view that alcohol in large doses depresses the temperature. It is not my province to discuss the physiological data on which modern scientific opinion rests, but the practical considerations governing its use in disease. I start with the proposition—the elements of which are too often confounded—that the antipyretic effects of alcohol are distinct from its stimulant and supporting properties. In the treatment of acute inflammations and fevers we may employ alcohol as an antipyretic, to depress the abnormal temperature, or as a support to the circulatory system and a stimulant to the digestive function. In the former case large, in the latter small, doses are necessary.

The modern conception of the fever-process and the relation of high temperature to cardiac and cerebral paralysis have imparted a new and more powerful significance to the use of antipyretics. It may be compendiously stated, without going into the reasons for the statement, that alcohol does not compare with the cold bath, with quinia, even with digitalis, as an antipyretic. It is true Binz has apparently demonstrated its utility in the hyperpyrexia of pyæmia, but this fact does not invalidate the general proposition. There can be no question, however, regarding the utility of alcohol in the adynamic state in fevers and in inflammations. It is not, however, as a febrifuge, as a depressant of the temperature, as an antipyretic, that it is useful. It may be affirmed that in all cases of the feverish state, if digestion still goes on, if cardiac paralysis is not threatened, alcoholic stimulants are unnecessary. The two conditions demanding the administration of alcohol are failing digestion and failing heart. It is rare indeed that more than two ounces of wine or an ounce of whisky is required, even in the most pronounced adynamia. If this do not stimulate the stomach to better work, or itself furnish needed force to the failing heart, a larger quantity can do no more. How often do we see the stomach filled to overflowing with stimulants, and yet the heart does not respond, because the smallest amount is not appropriated! When a thimbleful cannot be oxidized, why put into the stomach a pint? Graves formulated some admirable rules for our guidance in the use of alcoholic stimulants in fevers. Alcohol does good when the tongue changes from dry to moist, when the stomach can receive and digest more food, when the pulse declines in rapidity and gains in force, when the surface grows moist and cool from hot and dry, when the delirium ceases and an expression of intelligence replaces blank stupor.

In the event of sudden and alarming depression, digestion being suspended, it is possible to maintain the body-forces on alcohol alone. Very numerous examples confirm the conclusions of experiment, that the oxidation of alcohol furnishes the force necessary to maintain the vital operations for a number of days; but it should be definitely understood that in the administration of alcohol for this purpose no provision is made for the necessary processes of wear, and hence there must early come a termination to a life so maintained.

IV. Some recent experience justifies the belief that the antiseptic properties of alcohol may be made available in practice. That it is inimical to animal ferments, to the lower forms of life, and prevents or arrests putrefactive decomposition, are well-known facts. That these properties may explain the effects of full doses of alcohol in diphtheria seems probable, for, besides its influence over the cardiac depression, the micrococci colonies may be attacked

by it as they migrate. In what way we may explain the results, it seems plain that alcohol, when pushed to a degree which seems somewhat extravagant, has appeared to exert a decided curative influence which cannot be explained by its stimulant and antipyretic action. From this point of view may be regarded the good effects of alcohol in the septic maladies,—septicæmia, erysipelas, puerperal fever, and the exanthemata, notably smallpox. It seems to me beyond question that the undeniably good effects of alcohol in these septic diseases is not explained by referring the results to its other properties. If this be admitted, it follows as a necessary consequence that to be effective in these diseases alcohol must be administered in large doses. There must be maintained, in a certain sense, a saturation of the blood in order to act on the *materies morbi* efficiently. There must be, of course, a judicious measure of the force of the disease, and the doses of the remedy be made to conform. In my own experience I have found these principles a valuable guide to the treatment of this important group of diseases.

V. I need not detain you long on the subject of alcohol as an anodyne. It quite yields in importance to the valuable derivatives ether, chloroform, chloral, etc. It has probably yielded quite too absolutely to the anæsthetics so called, and might be used advantageously to benumb the sensibility to pain in the minor operations. It cannot be prescribed with safety for the relief of nerve-pain, since the alcohol habit is sure to be formed. As a temporary expedient it may be useful. A tablespoonful of raw brandy or whisky may arrest an attack of migraine impending. An anæmic headache or the wakefulness of anæmia may be quickly removed by alcoholic stimulation. It is a curious fact, true also of morphia, that when after the long-continued use of spirit for neuralgia the remedy is discontinued the pain returns.

VI. What is the proper practice regarding the administration of alcohol in certain maladies caused by it? To render my position perfectly clear I must precede the answer to this question by some definitions. Magnan makes a distinction between acute alcoholic delirium and delirium tremens,—the former a delirium due to the impression of alcohol on a brain not accustomed to it; the latter a delirium occurring in the subject of chronic alcoholism. In my "Treatise on the Practice of Medicine" (2d ed., p. 843) I have adopted the old but expressive terms *mania a potu* and *delirium tremens*,—the former corresponding to Magnan's acute alcoholic delirium. I must insist on the distinction between these forms of alcoholic delirium; for the practice pursued is a necessary consequence. Now, as in mania a potu the delirium is a direct result of the alcoholic excess, the first step in the cure consists in the withdrawal of the alcohol. The practice should be different in most cases of delirium tremens. It is true, in a small proportion of cases the outbreak of delirium is due to sudden excess, but usually the opposite condition obtains. Owing to the failure of the stomach, neither food nor stimulant can be retained, and then the peculiar illusions and hallucinations appear. In such cases, also, the food, when the stomach is prepared to receive it, may fail to be digested, because the gastric glands, so long accustomed to the stimulation of alcohol, will not act in its absence. It is surprising how in these cases, after some preparatory treatment, when food is taken with more or less stimulant, sleep and sanity follow expeditiously, without the intervention of doubtful hypnotics.

Alcohol performs another rôle in those cases of delirium tremens complicated with croupous pneumonia, or cases of croupous pneumonia complicated with delirium. With the progress of the pulmonary obstruction, ischæmia of the arterial system increases, and hence the laboring heart needs the support which alcohol may supply. Thus, having correct principles to guide our treatment of delirium tremens, the vexed question of the use of alcohol in this disease is readily solved.

VII. The power of alcohol to coagulate albumen, to suspend the activity of the unorganized ferments, and to destroy minute organisms, lies at the foundation of its external uses. It is a most efficient hæmostatic to restrain bleeding from wounded surfaces, as I have repeatedly verified. As an antiseptic dressing to wounds, to prevent the entrance of the germs of putrefaction, to check suppuration, and to promote healing, it has in my experience scarcely been inferior to the much-vaunted carbolic acid. It is

an efficient means for procuring local refrigeration of an inflamed joint or swelling. Injected under the skin in the neighborhood of painful nerves, it has no inconsiderable anodyne power. This property may be utilized for the relief of myalgia and lumbago. A few drops thrown into the affected tissues will usually afford permanent relief. It is more efficient than water, used by the method now known as aquapuncture. Enlarged tonsils, hypertrophied thyroid, and glandular swellings may often be slowly reduced and made to disappear by the parenchymatous injection of alcohol. This method is applicable to the treatment of uterine fibroids.

In cases of sudden depression of the powers of life, whisky may be thrown under the skin, to obtain more speedily than by the stomach its effect as a cardiac stimulant. I have already mentioned the contra-indication of this practice in the treatment of the narcosis or the cardiac depression caused by the anæsthetic agents ether and chloroform. It is, however, perfectly applicable to other conditions characterized by sudden and powerful depression of the heart. The amount injected varies from ten minims to a drachm; a syringeful—about half a drachm—is usually inserted at once, and is repeated according to necessity. Some local swelling arises, which may subside in a day or two, or an indurated lump remain for a time, or rarely suppuration may occur.

MEDICAL RELATIONS OF THE COMMERCIAL ADULTERATIONS OF WINES AND LIQUORS.

Read before the Philadelphia County Medical Society, April 27, 1881,

BY HENRY LEFFMANN, M.D.,

Lecturer on Toxicology in Jefferson Medical College.

GENTLEMEN,—In an article read before this Society just one year ago,* I said that the commercial adulterations of wines and liquors are mostly by substances that are not more harmful than the materials which they substitute, and that while much liquor is factitious it cannot be considered more injurious than the genuine. I have seen no reason in the year's interval to modify this view, and in the present paper I shall confine myself to a brief notice of known effects of those substances which, either by accident or design, find their way into common liquors. Medically considered, the circumstances under which a body is added are of no importance: the fact that it is found in the liquor makes it a commercial adulteration. We may consider the different substances, under a rude classification, according to their chemical similarity.

First: Alcohols other than the common form. The vinous fermentation gives rise to a number of by-products, especially to related members of the simpler alcohol series,—propyl, butyl, and amyl alcohol. Methyl alcohol, or wood-spirit, is not usually found. As regards propyl and butyl alcohol, our knowledge of their effects is not extensive; but their poisonous qualities are affirmed by good authorities, and they appear to have marked depressing action. Fusel oil or amyl alcohol is the great impurity of fresh liquors. Its complete removal is difficult, and its action is decided. When inhaled in concentrated form it is strikingly irritating to the fauces; when diluted with common alcohol it is more tolerable: but authorities are agreed that its effects are dangerous and prolonged. The following are some of the recorded facts concerning its action.†

Eulenberg administered ten drops to a small animal, with the production of violent palpitation in seventeen minutes, and anæsthesia in twenty-two minutes. The animal did not completely recover until next day.

Cros, of Strasburg, experimenting on himself, found that ten to fifteen centigrammes (about two minims) produced frontal and temporal headache, with constriction of throat; four grammes (f℥j) caused general depression, with difficulty of standing and diarrhœa; eight to sixteen grammes, jerky, rapid respiration, with marked head-symptoms and repeated vomiting.

Rabuteau found that ten centigrammes dissolved in one litre of beer produced dryness of throat and a sort of "horrors."

As regards the amount in whiskies, Cameron, of Dublin, thinks that bad samples may contain from .1 to .3 per cent.

A French authority (Dujardin-Beaumetz) has given the following as a scale of the

* Transactions of Philadelphia County Medical Society, vol. ii. p. 28.

† See Dublin Journal of Medical Science, 1880, lxix. 414–422.

proportion between the poisonous doses of these alcohols:

Ethyl alcohol . . .	8
Propyl " . . .	3·9
Butyl " . . .	2
Amyl " . . .	1.7

Cameron thinks the figure for amyl alcohol too great, and believes this substance to be at least fifteen times as active as ethyl alcohol.

Methyl alcohol is not a common adulteration. Its effects appear to be less serious than those of common alcohol. Richardson, in his essay on alcohol,* speaks positively of the lightness and transient character of its effects, and seems to recommend its use medically. Statements of the poisonous character of its vapor have been published; but I may mention that for some five or six years past I have worked in an atmosphere more or less impregnated with the vapor, and have felt no injurious effect.

Among the incidental products of fermentation and distillation are aldehyde and empyreumatic oils. Cameron, in a recent report, inclines to refer the poisonous effects of new liquors to the aldehyde rather than to the fusel oil, which is commonly supposed to be the cause. He mentions analyses in which considerable amounts of aldehyde were found, and details a case in which an aldehyde whisky caused serious mental derangement. This impurity is removed by evaporation and oxidation, and Cameron advises that no whisky be allowed sold unless it is at least two years old. This period, by the way, is the same as was given by Dr. C. H. Thomas in a discussion before this Society some months ago.

The empyreumatic oil probably contains creasote-like bodies. Two or three drops are said to cause burning pain in the stomach, while more than four minims could not be borne.

The odors and some of the medicinal effects of wines especially are due to small quantities of the so-called compound ethers, which are formed by the union of an alcohol radicle with the radicle of some acid. Out of the large number of possible compounds of this class, we are here concerned only with those which are formed from the common alcohols,—such as methylic, ethylic, and amylic,—and the common organic acids, formic, acetic, and valerianic. Nearly all the members of the group are highly volatile and strongly odorous, freely absorbed by the system, and rapidly eliminated. Their rate of absorption and elimination diminishes as the proportion of carbon increases, and the higher members of the series are like the common fats. Those which occur in wines and liquors are mostly capable of being made artificially, and are frequently so prepared, so that by being added to a pure spirit a false wine can be made. The medical effects of these artificial flavors must be regarded as similar to the natural form. Considerable light has recently been thrown on the medical relations of the more common forms of these bodies by the researches of Rabuteau. He experimented upon himself and upon various warm- and cold-blooded animals. He found the effects much more decided in the latter class, and ascribes this to the less rapid change and destruction of the ether in the blood. This change, Rabuteau proved by experimenting upon blood-serum, consists in the action of the alkaline salts of the blood to produce an alcohol and a sodium salt. Thus, if acetate of ethyl be introduced into an alkaline fluid, we will have ethyl alcohol and sodium acetate. The ethyl alcohol will produce its constitutional action; the sodium acetate will be converted into carbonate and removed in the urine. I have been somewhat minute in giving these chemical points, because by properly applying them we have a clue to the medical relations of all the flavoring ethers. Their action depends on the alcohol radicle, and not on the acid present. Whatever acid is present will soon pass into carbonate, but the alcohol radicle will form its corresponding alcohol, and the effect of this will be the ultimate effect. Applying this principle, we will understand why the French experimenter found that ethyl acetate, ethyl formate, and ethyl valerianate had actions very similar, and when added to good wine did not materially modify its properties. These bodies, by the action of the blood, were changed into ethyl alcohol and sodium acetate, formate, or valerianate, as the case might be; and these three salts were rapidly changed into carbonates. When the corresponding compounds of amyl were taken, the dangerous amylic alcohol (fusel oil) was soon produced. It thus happens that two bodies

* Cantor Lectures, 1874.

of the same absolute composition may produce different effects. Amyl formate and methyl valerianate, for instance, have the same composition; but one will produce the volatile and rapidly-eliminated wood-spirit, the other the persistent and poisonous fusel oil.

Rabuteau gives, in more or less detail, the effects of a number of these ethers; but it is not necessary to do more than indicate a few points. Two wineglassfuls (about eight ounces) of a ripe wine, to which 1.5 per cent. of ethyl acetate had been added, taken during a morning, produced no special effects beyond a slightly increased tendency to affect the head. White wines usually contain this ether, and they are said to have a tendency to produce head-symptoms. The ethers formed from amyl and propyl alcohol are supposed to be especially powerful in causing the conditions and changes seen in chronic alcoholism.

Quite a long list of spurious colors, bitter and astringent principles, have been given by the writers on the chemistry of this subject.

Among the colors added to wine are logwood, red cabbage, beet-root, caramel, cochineal, and rosaniline. It is only with regard to the last-mentioned that anything special may be said. Aniline preparations are very apt to contain arsenic, and, while the color itself may have very little injurious action, the danger of arsenical contamination should justify the active prohibition of its use.

Of the bitter principles added to beer I may mention absinthin, aloin, gentianin, and quassin. According to some observers, absinthin is a cerebral excitant; according to others, a pure tonic. It is used in continental-European practice in doses of one-half to two grains. I have no data showing the percentage used in beer, but it is probably small. The medical relations of the other bitters are well known. It is doubtful whether, in the proportion in which they are used in beer, they could produce any trouble.

A number of miscellaneous adulterations may be briefly touched upon. Glycerin is employed to substitute syrup in some wines and spirits. For the purpose of giving to liquor the peculiar property of holding a bead or bubbles, a so-called bead-oil is used. One sample which I examined consists apparently of fixed oil; but, as only about three-quarters of an ounce are added to forty gallons of spirit, the adulteration cannot be considered dangerous. Sugar of lead, plaster of Paris, and alum have been found in wines, but not commonly. Their presence would undoubtedly be injurious, the use of the first-mentioned being entirely improper.

In conclusion, I feel compelled to express an opinion that may seem to many unreasonable. We know that liquors prepared by strictly natural methods are not constant in composition; we know that, under the exigencies of trade, additional conditions of variations are produced, and even complete substitution brought about. I have for some time thought that the best way to secure entire constancy in the therapeutic use of alcohol would be to have the preparations made up by regular prescription, or by printed formula in the Pharmacopœia. The substances which exist in a wine, a beer, or a brandy are in accidental mixture; some are useful, others useless. Why should we not have the useful articles properly combined by competent hands, and the useless omitted? The prejudice is in favor of the natural liquor, the opposition strong against the factitious article; but this prejudice and opposition are probably due largely to conservatism. If the use of alcoholic liquors continues much longer in medical practice, and the physiological and therapeutic effects of their ingredients become pretty fully known, we may expect that the physician, instead of ordering a special wine, will simply prescribe such proportions of alcohol, water, flavoring ethers, and astringent or bitter principles as may seem required.

BIBLIOGRAPHY.

RICHARDSON. "Cantor Lectures," 1874.
RABUTEAU. *Paris Medical Gazette*, 1879, No. 44 et seq.
CAMERON. *Dublin Journal of Medical Science*, 1880, lxix. 414–422.
BLYTH. "Foods and Poisons," 123–207.
The Analyst, 1880 and 1881, various articles.

AN ADDITION TO THE BINAURAL STETHOSCOPE.—Mr. Irwin Palmer figures, in the *British Medical Journal* of April 30, an addition to the binaural stethoscope in the shape of a dial-plate which registers the divergence of the metal arms, thus enabling the instrument to be used as calipers to measure various diameters, expansion of chest, etc.

IS ALCOHOL A FOOD?—WHEN SHOULD MALT LIQUORS BE PREFERRED TO WINES AND SPIRITS IN THE TREATMENT OF DISEASE?

Read before the Philadelphia County Medical Society, April 27, 1881,

BY H. C. WOOD, M.D.

BEFORE attempting to express briefly an opinion as to the food-value of alcohol, and to marshal the facts upon which such opinion rests, it is proper to define the term "food," lest verbal confusion arise. Some persons may incline to recognize as foods only those substances which either in their entirety or in a more or less altered condition are capable of being formed into the bodily structure. It is plain, however, that this use of the word is too restricted. Of the substances taken daily into the stomach as sustenance only a portion becomes an integrant part of the animal economy, as is shown by the enormous increase in the formation of urea which follows a heavy meal of meat. The appetite for blubber which is produced by exposure to an Arctic atmosphere indicates that the system needs an extra supply of fatty food,—an indication confirmed by the beneficent effect upon the exposed organism of a highly carbonaceous and liberal diet. The Arctic explorer does not fatten, although he may eat enormously of fat. The carbon compound is evidently fuel which is burned up to maintain the bodily heat,—*i.e.*, to yield force to maintain the molecular movements of the organism. It is not necessary to elucidate the point further. It is plain that under many circumstances that which is eaten is used not for reconstruction, but for force-production.

If the term food be employed in its narrower and, as I think, improper sense, it must be acknowledged that there is no proof that alcohol is a food. The enormous accumulation of fat frequently seen in beer-drinkers, and to a less extent in those who employ dilute alcohol in other form, would seem to indicate that alcohol is capable of being converted into fat, but is probably better explained in other ways.

When the term food is used in its wider and more correct sense, the question "Is alcohol a food?" must receive an answer essentially different from that just given.

From this point of view, any substance which is destroyed in the system, and during the destruction yields force, is a food. The evidence that alcohol fulfils both these conditions is most positive,—so positive, indeed, that there is probably no one of those present that would deny at least that alcohol is burnt up in the body; and, if it be burnt up, it must yield heat,—*i.e.*, force.

The questions whether alcohol is an economic food, whether it is practically useful as a food, are entirely distinct from that just answered. In regard to its economy, an ounce of good whisky may be estimated to cost about three and one-half cents to the man who buys by the gallon. According to the researches of Dupré, it would require about five ounces of lean beef to yield the same amount of force as that produced by the ounce of alcohol: these five ounces may be fairly estimated as costing at least five cents to the ordinary consumer; so that the advantage is plainly on the side of the spirit. There are, however, various foods cheaper than is lean meat. Tallow at six cents a pound in its burning certainly affords much more of force for the money than does alcohol.

Looking at the matter practically, and not as to a theoretic economy, it is evident that, as alcohol is usually taken and as food is usually eaten, no claim can be rightly made as to the superior cheapness of the beverage. Again, it is notorious that in America almost every one in reasonable health consumes much more food than the system needs, so that any alcohol taken is added to that which is already in excess. In Europe it is different: a large part of the population is underfed, and a modicum of alcohol is a decided food-gain. It must be remembered, also, that as a food alcohol is superior even to lean beef, in that it requires no force to digest it. The coarse food of a European peasant is often worked up by the stomach only by the expenditure of much force; it is also repulsive to the palate. The draught of landwein or the schooner of cheap beer washes down very well the morsel of black bread. Not only by stimulating the stomach does it aid in digestion, but also by readily yielding force to the system it assists in the elaboration of more refractory substances.

Although I hold that the habitual use of alcohol is to well-fed persons not only unnecessary but positively harmful, it seems to me that in many cases of illness and in

those periods of life when by reason of age the body waxes weak, alcohol is possessed of great value. Under sixty years of age the daily employment of wine may for most persons be very well discountenanced; but after this period has been reached, I believe the moderate employment of stimulants is very useful. The progressive failure of bodily powers points to the use of a substance which shall aid in digestion and readily supply force. In the later years of life even the narcotic influence of alcohol is of value, easing the restlessness, the slight discomforts, the suffering of nerve-failure incident to failing vitality.

The question whether alcohol has food-value in disease is one not easily answered by positive evidence, because the narcotic properties of the substance are so marked as often to mask its influence as a food, and because we rarely dare to employ alcohol except with an abundance of other food. The principles already outlined are, however, as applicable in disease as in health. Recent researches in fever have determined that the excessive heat-production is dependent upon excessive changes in the stored materials of the body, and it is improbable, though not impossible, that alcohol is capable of taking the place of these, and, by being, as it were, vicariously burnt, saving the tissues. The value of alcohol in low fevers therefore probably depends upon other qualities than its usefulness as a food, although our knowledge of fever-processes is yet so imperfect that it is necessary to speak with great reserve.

In chronic wasting diseases I believe alcohol has an actual food-value, besides being a most powerful aid to the digestion of other food. Arguments upon this point do not seem required, and it is of course very difficult to give actual clinical proofs, because we always employ alcohol with other foods and remedies.

The question as to the best method of administering alcohol when it is used for its sustaining powers is of vital interest.

Two general propositions will, I believe, command almost universal assent. First, the alcohol must be given in a dilute form; second, it should be given along with other food. Provided these two rules are observed, I do not think it makes much difference in what form the drug is administered. In chronic diseases malt liquors have both advantages and disadvantages. They represent food and drink, are less apt to be abused than are stronger liquids, and by virtue of their bitterness have some tonic properties; on the other hand, they sometimes disagree with the stomach. As they contain some nutritive material, there is perhaps more tendency to administer them apart from food than there should be. The amount of solid constituents in a pint of malt liquor varies from over two and a half ounces of dry residue in the strongest English ales to three-quarters of an ounce in the weakest ales and beers. The ales and beers usually drunk in this city probably range from one to two ounces of solid contents to the pint. The nature of much of this solid matter is not known, but albumen, bitter and resinous principles from the hop, earthy salts, grape-sugar, glycerin, and a number of complex acids have been recognized in it. The tendency to grossness seen in beer-drinkers undoubtedly largely depends upon the solid constituents of the beer which is taken, and seems to me to indicate the proper medical use of malt liquors,—namely, that they are especially to be employed in wasting diseases, *i.e.*, where there is a tendency to the loss of the bodily fat.

In regard to the choice of malt liquors, I do not think there is any other than what we may call personal grounds for selection. That which suits the palate best usually suits also the stomach best. The choice should always settle upon the ale, porter, or beer which can be used with least inconvenience to the stomach; and when all malt liquors produce "biliousness,"—*i.e.*, gastro-intestinal derangement,—wine or diluted spirits should be substituted. As the malt liquors contain nutritive material, it is less necessary to give food with them than it is with whisky or wines. Nevertheless, it is preferable in most cases that food should be taken with the ale or beer.

PISTOL-SHOT WOUND OF SIDE AND ABDOMEN.

BY HENRY M. WETHERILL, M.D.

GEORGE A. P., æt. 23, married, was admitted to the surgical ward of the Pennsylvania Hospital under the care of Dr. William Hunt, May 4, 1880, for a self-inflicted gunshot wound.

The conical ball, which weighed about six drachms, penetrated his clothing and

struck a pack of playing-cards which was in the pocket of his waistcoat, tearing them into fragments, thence, being deflected downward and to the right, passed between the waist-band of his drawers and the skin, following the contour of his person until it reached the right gluteal region, where, being spent, it dropped down his leg and was found in his boot. Upon the left epigastrium was a deep powder-burn, which could barely be covered by the hand,—the integument having been destroyed, and the grains of powder blown deeply in. From this burn there extended to the right, and somewhat downward, a bright-red track or score across the abdomen and around the right side as far as the right gluteal region, corresponding to the course taken by the missile along the waist-band of his clothing.

The integument in the track of the ball sloughed, and a superficial linear ulcer resulted. The ulceration caused by the powder-burn remained obstinately open for some time, this being due to the very ragged nature of the wound, and to the irritative action of the grains of unburnt powder, which had been blown deeply into the tissues. The patient was discharged cured about five weeks after receipt of injury.

Upon examining the bullet it was found to have lost to a considerable degree its conical shape, the point being crushed down and rounded off, so great was the resistance offered by the pack of cards. After penetrating these, its momentum must have been very much reduced, else it would have done more than wander peacefully around his waist-band and drop into his shoe.

TRANSLATIONS.

Simple Hepatic Engorgement—Its Treatment by the Douche and by Massage.—Dr. Durand-Fardel (*Bull. Gén. de Thérap.*, vol. c., 1881, p. 241) calls attention to this method as a valuable adjuvant to the ordinary treatment. Simple engorgement or chronic hyperæmia of the liver is characterized by general or partial enlargement of this organ,—usually enlargement of the left lobe. There are no tumors or inequalities of surface, nor is there excessive hardness. Pain, whether spontaneous or aroused by pressure, is observed only at intervals, and is sometimes entirely wanting. It never offers the character or the fixity of cancerous pain. Icterus may be wanting or very faint. The cachectic tendency of organic lesions is likewise wanting, and the duration itself of the alteration furnishes a diagnostic point regarding this last feature, as in the case of sclerosis. Neither the glycogenic nor the hæmatosic functions attributed to the liver are affected. The circulation is generally not interfered with. Anasarca and ascites are absent. Finally, this engorgement is susceptible of resolution even after a long duration, and its persistence will lead to the belief that it has been replaced by hypertrophy or induration.

Vichy, of which Dr. Durand-Fardel is director, proves very successful in the cure of these affections of the liver, and numbers of cases come under his observation.

Of one hundred and thirty-three cases noted by Dr. Durand-Fardel, forty-three were said to have followed upon acute attacks, usually described as resembling hepatic colic or perihepatitis. Seventy-two developed gradually, and eighteen in an almost latent manner, their advent having been masked by dyspeptic symptoms. Whatever the method of onset, however, this variety of engorgement presents, when fully developed, nearly the same symptoms in every case. Simple engorgement of the liver often appears to be connected with some embarrassment of the circulation, and, indeed, not unfrequently, with cardiac disease.

The time-honored treatment at Vichy has comprised simply baths, with the internal employment of the waters. For some time past, however, Dr. Durand-Fardel has added to this the employment of douches directed against the hepatic region. He does not employ these except in the absence of painful symptoms, either spontaneous or aroused by pressure. The existence of intercostal neuralgia is likewise a contra-indication to the employment of the douche. The douche used by Dr. Durand-Fardel is in the form of a rose, throwing a fine spray against the part. The patient does not begin to use the douche for a week after arriving at the springs, and at first it is employed only on alternate days. It is suspended at once if any uncomfortable feeling is produced. These douches, which

are called resolvative, are employed just before the bath, and at the same temperature,—34° Centig. Their duration is five to ten minutes, while the bath following lasts half an hour to an hour. These douches are well supported, and their employment is followed by a general feeling of buoyancy and of relief in the hepatic region.

In most cases this treatment is very satisfactory, the general condition of the patient improving and the various symptoms of dyspepsia disappearing. The liver does not, however, in many cases, diminish much in size during the month or so while the patient is under treatment, but the diminution and general improvement go on after the patient leaves. The entire treatment of these chronic cases lasts over several years. What is gained by each visit is retained, and in the immense majority of cases the patient ultimately recovers. The waters should be taken in small doses between-times, and baths of Vichy-salt should also be employed.

While the douche as above described is itself a sort of massage, yet there are a certain number of cases where the ordinary methods of massage may be supplemented to the use of the douche. In using massage here, the abdomen is first kneaded all together,—that is, the general intestinal mass; then the hand is passed by gentle friction over the hepatic region, the skin which covers the engorgement is squeezed first, and then the deeper parts are pressed more and more deeply, with alternate movements of gentle tapping with the palm or surface of the fingers. Finally, the liver itself is kneaded, and its lower edge raised by seizing it in the hand. It is hardly necessary to say that these manipulations should be performed with the utmost gentleness and care, and that they should be gradually accomplished, and not completed at the first sitting. The operation is generally very agreeable to the patient, and is followed by a buoyant feeling. It should last five to twenty minutes (with brief intervals in the latter cases), and should not be repeated more than once in two days.

The contra-indications for massage are the same as those for the douche, only intercostal neuralgia is excepted, as its existence does not interfere with massage. Dr. Durand-Fardel considers the *modus operandi* to be purely mechanical. The liver is emptied in part of its fluids as water is squeezed out of a sponge. In addition, massage acts favorably on the circulation, and thus hastens absorption.

Etiology of Amyloid Kidney.—E. Wagner (*Deutsches Archiv für Klin. Med.*, Bd. xxviii. p. 417) had been collecting facts bearing on this subject during many years, when he met with Henning's dissertation (Kiel, 1880) on the statistics and etiology of amyloid infiltration. Had he known Henning was at work, says Wagner, quaintly, he would have spared himself the troublesome task. However, it is of interest that the results of both observers tally.

Wagner has made autopsies of two hundred and sixty-five cases where amyloid kidney was found. Of these, one hundred and thirty-six cases were phthisical. Chronic pulmonary phthisis occurred in one hundred and thirty-three of these cases, with concomitant tuberculous ulceration of the intestine in ninety-eight cases. Two cases showed chronic ulcerative tuberculosis of the intestine without lung-complication, and one case showed caseous degeneration of the mesenteric glands without intestinal or pulmonary disease. In one case there was slight pulmonary and no intestinal complication, but well-marked tuberculosis at the root of the tongue and in the larynx.

In seven cases there was some chronic etiological (though probably subordinately so) osseous affection in addition to the phthisis.

The age of the patient was in eighty-seven cases under thirty years,—usually between twenty and thirty. Forty-nine cases were over thirty years of age (ten of these were fifty and over). The oldest, a woman of seventy-four, died of senile gangrene of the foot.

In one hundred and twenty-five cases lardaceous spleen, and in eighty-one cases lardaceous liver, were present. Wagner thinks the proportion would have been higher if these organs had always been examined microscopically. The lardaceous spleen was not infrequently considerably enlarged, while the liver was, as a general thing, only very slightly so, and therefore could not aid in the diagnosis during life.

General dropsy was present in twenty-seven cases; œdema of the lower part of the body in seventeen.

The final cause of death was as follows.

In six cases, suppurative peritonitis (most likely the result of intestinal ulceration). In one case there was simultaneous suppurative peritonitis, pleuritis, and meningitis; in five cases, pneumothorax (once of two years' duration); of tubercular meningitis, hæmoptysis, pneumonia, and laryngeal croup, one case each.

The heart was usually normal, apart from general diminution in size and from not unusual right-sided eccentric hypertrophy. In a number of cases surprising diminution, etc., or brown atrophy was noted. In one case there was hypertrophy of the left ventricle (without macroscopic diminution in the size of the kidney). In one case there was dilatation without hypertrophy.

Disease of the bones was observed in connection with amyloid kidney fifty-six times. The affection was always chronic, but was less varied in character than in locality. (Syphilis of the bone is considered later.) The suppuration, or rather the ulceration, of the bone was present in most cases at the time of death. In other cases the disease was more or less healed, showing, however, the marks of previous communication with the outer surface. In a few cases suppuration had apparently not taken place. Wagner goes on to give the various bones affected, the age of the patients, and the concomitant disorders, as before. He then alludes to the occurrence of amyloid kidney in syphilis, referring to a previous article on this subject published in the same journal (Bd. xxviii. p. 109). He saw thirty-six cases in all, eighteen of which showed concurrent ulcerative lesions of the skin and bones; nine cases showed severe ulceration of the skin and mucous membranes, and there were nine where other diseases besides syphilis existed which could be considered of etiological importance. In thirty cases there was lardaceous disease of the spleen, and in sixteen the same affection of the liver. Fourteen showed general dropsy; three, œdema of the lower extremities. In three cases there was granular lardaceous kidney with hypertrophy of the left ventricle. Two patients died of uræmia: both of these showed the usual amyloid kidney.

In thirty-seven cases the amyloid kidney could be attributed to or was connected with unusual causative affections. Sacculated bronchiectases, chronic suppuration or ulceration of the skin, severe variola, chronic suppuration of the mucous membrane, chronic empyema, chronic pyelitis or pyelocystitis, chronic parametritis with fistula of the bladder, primary psoas abscess, and ulcerating cancer, were the causes which in one or several of these cases existed. Finally, seven cases of amyloid kidney were observed where absolutely no causative disease of other parts of the body could be found to exist.

A Case of Anæsthesia of the Shoulder and Forearm, of Reflex Origin and consecutive to a Wound of the Axillary Region, cured by Successive Application of Blisters in the Neighborhood of the Cicatrix.—Dr. Malecot writes to the *Bulletin Gén. de Thérap.* (vol. c., 1881, p. 259), describing the case of a woman who received, on the 1st of December, a knife-wound in the axilla, three finger-breadths below the outer end of the clavicle, two centimetres in length, and of an undetermined depth. It was evident that no large vessel had been wounded, and exploration showed that there was absolute anæsthesia of peculiar distribution, not corresponding to the distribution of any nerve. It might be stated roughly to include the entire posterior scapular region, the subclavicular region a finger-breadth below the breast, and the entire axillary region. The arm and the upper third of the forearm were likewise anæsthetic at all points, the anæsthetic area terminating abruptly at a certain point, the wrist and hand being unaffected. Motion was unaffected. The wound healed nicely, and by the end of December was entirely cicatrized. The anæsthesia, however, continued, and the patient complained of numbness and cold with occasional severe pain in the region of the shoulder. After the wound had been cicatrized some three days, paresis began to appear in the extensors of the forearm. The fingers could not be straightened from the palm, nor the hand from the wrist, except incompletely. The pain in the shoulder continued. Dr. Dumontpallier, who was in charge of the case, considered the trouble to be reflex in character, and, with a view to peripheral stimulation, ordered, on February 2, a blister of ten square centimetres (about three square inches) applied directly over the cicatrix. Other blisters were subsequently placed on the neighboring surface, and the normal sensibility slowly but steadily returned, the patient being discharged cured at the end of a month.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, JULY 16, 1881.

EDITORIAL.

MEDICAL SOCIETIES.

THE recent centennial celebration of the Massachusetts Medical Society was the occasion of an oration by J. Collins Warren, upon the organization and nature of the work of medical societies, which has since been published as a handsome and very interesting pamphlet, that should be read, and upon which we offer a few running comments.

The contrast between our American Medical Association and that of Great Britain is a very strong one. In England most of the great doctors of the nation are at the annual gathering, but in this country, with few exceptions, the foremost medical men do not attend the annual meeting. The reasons of this seeming lack of spirit are, to our thinking, very obvious: they are the size of the country and the absence of centralization.

It does not pay Dr. Jones to go to New Orleans at an expense of some hundreds of dollars and at a loss of much time, because his consultation-business is not to be thereby benefited; whilst it does pay the rising London consultant to spend his pound or two to go to Leeds, Edinburgh, or Glasgow, because neither of these places is outside the limits of his reach as a consultant. That this difficulty can be overcome by any peculiar reorganization of the American Medical Association may be possible, but seems to us doubtful. A similar obstacle lies in the way of a successful national journal. New Orleans feels medically little if any more in common with Boston than with London or Paris; whilst Birmingham bows itself to the British metropolis.

The plan, favored by Dr. Warren, of establishing a national council, a sort of medical senate, the members of which are to be elected for a term of years by State councils, whose members in turn shall be selected from Congressional districts, may possibly be a feasible one, but it will be difficult to persuade the present American Medical Association to perform the *auto-da-fé* necessary before its ashes can give birth to the new phœnix. We heartily agree with Dr. Warren in thinking that some radical change in the organization of the Association must precede the establishment of a successful national medical journal.

Whether the democratic constitution and habits of our country are consistent with legislative regulation of the profession or not is a problem not yet solved, but for whose solution material is now beginning to accumulate. By the law of 1877 in Alabama, the State and county boards of censors of the Association were constituted boards of examiners, by whom all persons intending to practise medicine must be examined, partly orally, partly by writing. The law is apparently being actively carried out. In North Carolina the State Society appoints a board of medical examiners. Any one may practise in the State, but no person, unless he has been licensed by this board, can collect fees at law. It is stated by the Secretary that the law is working very well, and that the people themselves are beginning to enforce its intention, no new man who does not have the license of the board having any chance for practice. In Texas, examining boards are appointed by judges of the district court. In Illinois, the State Board of Health has charge of the licensing of physicians: it does not examine, but gives the right to practise upon presentation of a proper diploma.

ALEXIS ST. MARTIN, the Canadian whose gastric fistula, with the experiments on digestion which it afforded, had made himself and Dr. Beaumont famous, is dead.

TOBACCO-CULTURE IN THE UNITED STATES.

AS conservators of the public health, as citizens interested in the growth of the country, and as men with bodily wants, most of American doctors are sufficiently interested in the subject of tobacco-growth to glance at the results of the last census. It is shown that the increase of the production for the whole country has been about eighty per cent, and further details are added from a recent census bulletin:

"Fifteen States produce now, as in 1870, more than ninety-nine per cent. of the tobacco of the United States, though it is reported in twenty-two other States and six Territories. Of these fifteen, only Missouri, Illinois, Indiana, and Massachusetts produce less than in 1870. Kentucky occupies the first position, producing thirty six per cent. of the total product of the country. Virginia holds the second place; Pennsylvania has advanced from the twelfth to the third.

The average yield per acre is 731 pounds. The variation in rate of yield, from 1599 in Massachusetts to 471 in North Carolina, is due in differing degree to the use or neglect of fertilizers, the habit of growth of different varieties, and the vicissitudes of the seasons. In Massachusetts, Connecticut, New York, Pennsylvania, and Wisconsin, the seed-leaf varieties are mainly grown and high fertilization practised, always resulting in comparatively heavy crops. In Ohio the yield is above the average, the Ohio seed-leaf being extensively cultivated in the Miami Valley, while the Burley, a vigorous grower of a less productive class, is almost exclusive in its prominence in the Ohio River counties. Kentucky, producing many grades of cutting and shipping tobaccos, upon an unexhausted soil of great original fertility, makes an average yield. In Maryland, Virginia, and West Virginia the yield is less than the general average. The low yield in North Carolina is a necessity of the production of the fashionable yellow "bright" grade used for plug-wrappers, grown on a poor soil, with low fertilization sufficient to stimulate early growth, but not enough to prevent early maturing."

IT gives us much pleasure to welcome the second volume of the Index Catalogue of the Surgeon-General's Office. The characteristics of it are precisely those of the first volume. It is a very handsome volume, and, simply as a specimen of accurate proof-reading, a remarkable production. The magnitude of the labor it represents is appalling.

PROF. MAURICE RAYNAUD, the giver of the French address at the coming International Medical Congress, has chosen for his subject "Le scepticisme en médecine au temps passé et au temps présent."

LEADING ARTICLES.

SYMPTOMATOLOGY OF TENDON REFLEX.*

IN a previous article we have indicated the course of the nervous currents concerned in the production of tendon reflex. The integrity of these lines of conduction is of course necessary to the proper occurrence of the symptom. Every obstacle to the nervous current either gives rise to an exaggeration of the tendon reflex, if its effect is irritative, or to the abolition of the reflex, if the lesion is a destructive one. We are now prepared to examine these two conditions, and to review the diverse medullary affections in which tendon reflex is exaggerated or abolished.

Cases in which tendon reflex is exaggerated.—Sclérose en plaques is the affection in which exaggerated tendon reflex was first observed by Vulpian and Charcot. In this disease, percussion of the rotular tendon gives rise to a more rapid and decided elevation of the point of the foot than is observed in the normal condition, while at the same time the cutaneous reflex remains unaffected. Exaggeration of the tendon reflex is a most important symptom in *sclérose en plaques*, because very often it is the only positive symptom observable in atypical cases. Sometimes it happens in the course of the disease that the reflex, at first exaggerated, disappears, and that exaggerated in some muscles it may be abolished in others. This is because a patch of sclerosis has invaded the posterior root of nerves corresponding to that region, and has thus broken the continuity of the diastaltic arc.

In the *spasmodic tabes dorsalis* of Charcot, the *spasmodic paralysis* of Erb, exaggeration of the tendon reflex is also observed. In fact, this symptom is here found to the most marked degree; for here, without any appreciable cause, a certain trepidation supervenes which may be confined to the extremities or may extend to all the limbs, or even to the entire body. Trepidation may even be obtained from the knee, so exaggerated is the patellar reflex. Percussion of the tendon of the biceps, triceps, radialis, supinator longus, and flexor of the fingers may give rise to

---

* See Medical Times, No. 355, July 2.

the reflex; and Erb has even in some cases provoked the appearance of this symptom in the hand. Charcot calls the affection the type of spasmodic diseases. In some cases, motor feebleness coexists with tendon reflex, so that movement becomes impossible, and this forms the condition known as spasmodic pseudo-paralysis. At one period of the disease the exaggerated condition of contraction may prevent the excitation of tendon reflex. As to the cutaneous reflex, it is sometimes increased and at other times diminished.

Sometimes a lateral sclerosis is added to the lesion of the anterior cornua of the cord, and we have lateral amyotrophic sclerosis. The symptoms of lateral sclerosis are associated with those of invading muscular atrophy. These symptoms are observed chiefly in the upper limbs, while the lower extremities only present rigidity, contraction, and exaggeration of the tendon phenomena. There is only irritative functional derangement of the ganglionic elements of the cord in these cases, and no destructive lesion.

Post-hemiplegic contraction from secondary degeneration of the antero-lateral filaments belongs in the same category. Charcot and Brissaud have recently shown that the morbid changes in these cases are preceded first by exaggerated tendon reflex, and then, when they have become more destructive in character, by abolition of tendon reflex, the reflex symptom in each case indicating beforehand what may be expected. Brissaud has demonstrated a curious fact in investigating the rapidity of conduction of the tendon reflex. He has shown that this is shorter on the *well side* of a hemiplegic than it would be in health, and has thus shown that the well side is not in reality well. This observation agrees with that of Dejerine, who in five cases observed reflex trembling of the healthy member as intense as that of the paralyzed limb. A curious fact is observed in hemiplegic patients,—namely, sensitiveness to percussion of the patellar tendon. In the healthy subject this may be struck a number of times, but in cases of hemiplegia with contraction the blow of the mallet gives rise to a painful sensation, of a transitory character, it is true, but which is felt by some patients as an object or body mounting the dorsal vertebræ, while others feel it as a sensation of contraction in the abdomen. It is, in fact, a true aura, of which the localization varies in different individuals. These sensations, Brissaud says, are observed only when the tendon of the paralyzed side is percussed.

Now, having hastily sketched the various symptoms connected with tendon reflex in hemiplegia with contraction, let us turn to the period at which these appear. According to Brissaud, in one case observed at the Salpêtrière, the trepidation showed itself eight days after the attack, while it was only twelve days later, or nearly three weeks after the attack, that contraction began to appear. The exaggeration of the knee reflex is therefore the initial symptom in these cases.

It is not only in cases of hemorrhage or of cerebral softening that exaggeration of tendon reflex is of importance, but in all diseases of cerebral origin where it is met with the diagnosis of secondary degeneration of the antero-lateral filaments may be decided upon. In one of Westphal's cases, a patient who had shown symptoms of exaggerated tendon reflex during life showed at the autopsy a myxosarcoma of the right hemisphere, with medullary degeneration; and Petitclerc gives in his thesis the case of a patient with chronic hydrocephalus who had exaggeration of the tendon reflex. Exaltation of this symptom has also been noted in hypertrophic cervical pachymeningitis.

In the same order of facts must be placed *hysterical contraction* with ovarian hyperæsthesia and hemianæsthesia. Here, also, tendon reflex is easily and markedly aroused. The symptom may be observed before the patient shows signs of contraction, and it may announce the near advent of the latter. It is to be noted that in these cases the cutaneous reflexes are entirely abolished, and may not be aroused by the strongest provocation,—facts which go to support Charcot's view of the independence of the diastaltic arc of the cutaneous reflex and that of the tendon reflex. The physiological explanation of these phenomena is difficult to give; though it seems possible that they are due to an irritation of the motor cells of the anterior cornua, analogous to the irritation produced by strychnia, but more durable than this.

The relations between hypnotism and tendon reflex have recently been made the subject of study by Dr. Paul Richer. The different nervous conditions to which the

state of hypnotism may give rise are of two kinds, as regards their connection with tendon reflex. In the first condition, that of induced hysterical lethargy, accompanied by neuro-muscular hyperexcitability, tendon reflex is markedly exaggerated, while in the second, that of induced hysterical catalepsy, tendon reflex is completely abolished.

In *chorea*, *eclampsia*, and *epilepsy*, the tendon reflex phenomena have not as yet been studied, some observers having reported cases where the reflex was exaggerated, while others, on the contrary, assert its abolition. Petitclerc, studying under Straus, has observed exaggeration of the tendon reflex in choreic patients.

In *paralysis agitans* the tendon reflex is not exaggerated.

While the clinical importance of exaggeration of the knee phenomena and clonus of the foot cannot be overrated, a scarcely less important place must be given to the disappearance of these reflexes as indicating an interruption of the diastaltic arc.

Westphal was the first, in 1878, to draw attention to the disappearance of the patellar reflex in *locomotor ataxia;* and this symptom, confirmed by Erb, has taken an important place in the clinical study of this disease, because it may be observed at a period so early that no other symptoms shall have manifested themselves. If a patient presenting the symptoms of amaurosis or lancinating pains is found in addition to show disappearance of the tendon reflex, a diagnosis of locomotor ataxia may almost certainly be made. Is this symptom constant? While Erb noted its absence in but one case out of fifty-five, and Berger in two cases out of nineteen, McLane Hamilton observed it in only one-half the cases coming under his notice. Dr. Ollive suggests that this may have occurred in Hamilton's cases because the lesions of the posterior columns were accompanied by lesions of the lateral columns in addition.

Tschiriew has established the fact that disappearance of the knee phenomenon in *tabes dorsalis* is due to the destruction of the commissural fibres of the external portions of the posterior columns, whence the impossibility that the excitation derived from these can reach the motor cells.

In *infantile paralysis* and *progressive muscular atrophy*, affections where the anterior cornua of the cord are involved, we would expect to find diminution followed by abolition of the tendon reflex; and in fact this condition is found to be present. It is possible that in the earlier stages of muscular atrophy the tendon reflex may still be preserved; but later, when the lumbar cord becomes affected, the reflex disappears.

Our present knowledge of the pathological anatomy of *diphtherial paralysis*, thanks to Dejerine, is such as to enable us to range it with the preceding affections. Westphal, Rumpf, Schultz, and Berger have shown that while the tendon reflex is abolished in this affection, yet the transient character of the paralysis is shown by the fact that the reflex is restored later; and indeed it might be said that the return of the patellar reflex proves the simultaneous recovery in the nervous elements.

In acute and chronic *myelitis* tendon reflex is very variable, according to the seat of the lesions, and permits of their evolution being followed. In certain cases of *spinal meningitis* the tendon reflex also furnishes indications. For if its exaltation does not indicate an invasion of the lateral columns, it at least points to a certain degree of irritation. In *Pott's disease* tendon reflex is of great importance, and it is found to appear and disappear from time to time. *Compression of the cord* is also followed by exaltation of the tendon reflex.

Thus far we have taken into consideration only the tendon reflex phenomena in connection with affections of the spinal cord; but before we conclude we may say something regarding these phenomena as observed in general affections. Strumpel has observed that the exaggeration of tendon reflex is not a symptom peculiar to affections of the nervous centres, but one which may be seen equally in certain cases of phthisis, in the course of typhoid fever, and in poisoning by strychnia and by atropia. Straus has also made some investigations which are recorded in the thesis of Petitclerc. In phthisis he finds the tendon reflex quite normal; so that it is possible Strumpel's case may have had some lesion of the cord or its envelopes. In typhoid fever the reflex is rather diminished than exaggerated, and in a case of hemorrhagic variola with paraplegia it was found to be completely abolished. The exact causes of the abolition or exaggeration of tendon reflex in these cases is not known; and indeed there is much to be done before any conclusions can be clearly formulated

which will cover the ground satisfactorily. Enough has been said, however, to show the daily growing importance of a study of these phenomena of tendon reflex, which in all probability are destined to play a prominent part in the practical study of nervous diseases.

CORRESPONDENCE.

LONDON LETTER.

THE dependence of health upon the perfection of our sanitary and hygienic arrangements is now generally recognized. The profession has done its duty nobly to the public in the matter of the prevention of disease, and yet its unselfish attitude has gained for it little gratitude. On the other hand, certain dishonest contractors are determined to push the interests of the profession in spite of its efforts to prevent disease. When a man buys a house or takes it upon lease, his first inquiry is, "How about the drains?" He is volubly assured that all is perfection; no suspicion need haunt his mind; he may be perfectly easy upon that head. He brings his family into the new residence, and soon first one sickens and then another. At last it becomes absolutely necessary to inspect the drains, and then the mystery is solved. At very considerable expense the drains are put into fair order, and the house becomes habitable; but it is hard upon the tenant to have to be at all this expense of doctors' bills and drain-repairing because somebody is a thief or a liar,—probably both. No doubt the owner wished to avoid any expense he could; the contractors had a human desire to make as much profit as was possible; and between the two the tenant is heavily mulcted, and some doctor gets fees he in no way designed to get, and who is in no way a party to the fraudulent transaction. When the laws which regulate man's duty to man become inefficient, and the moral laws are inoperative or insufficient to inspire conduct, then something must be done. Society does not exist for the benefit of any particular class, nor do we now admit that the many are here merely to minister to the few. It was, then, with the utmost satisfaction that I read that the Brooklyn plumbers are up in arms against a new legislative enactment to have official supervision of their work. It is quite clear that they are apprehensive; else why their perturbation? The progress of this new scheme and its practical results will be watched with the keenest interest by the long-suffering householders of this effete old country. Here we have borne the burden of plumbers till our withers are wrung. Old houses have much to recommend them; but the modern plumber does his best to maim the good work of his predecessors. Pipes are made so as to leak at the earliest possible date. The water-pipes are laid alongside or under the soil-pipes, so as to secure the introduction of sewage-matter into the drinking-water before very long. Whether the plumber thinks the medical man a confederate or not does not appear, nor is it possible, because the doctor has just the same difficulties to contend with in a new residence which meet others. The godless plumber goes on his way. He leaves a brazier burning with a light heart unburdened by care; and next morning we read that a church has been burned down or one of our national buildings, some old castle or hall, is no more. The plumber is at fault again. We have become so accustomed to his iniquities that we scarcely feel indignation. Then pipes are placed where it will cause infinite trouble to reach them when repairs are required; or the cistern goes wrong, and half a ceiling is ruined beyond repair, while the house is rendered damp and unwholesome for a long time afterwards. The plumber goes on his way rejoicing. He has made a little more work for another artisan, and has so fulfilled his duty towards his neighbor. Yes, but which neighbor? His fellow-workmen have been benefited, but it is at the expense of another neighbor. That is a matter of no moment whatever. He is only a professional man, or a clergyman, or "in the city." What does the plumber reck about that? The time is rapidly coming when the instinct of self-preservation will impel society at large to insist upon legislative measures to restrain such practices. Money is spent lavishly upon schemes to supply a fairly pure water, to dispose of the sewage in an innocuous manner; yet these schemes are all thwarted by the wiles of the builder and the plumber. As knowledge extends, so will the ability to detect these fraudulent arrangements obtain; but there is much left to be desired in the sanitation of our dwellings.

The favorite study of most of the enthusiastic workers in the profession is, for surgeons, Listerism; for physicians, nervous diseases. The two currents are carrying in their stream all, or nearly all, ardent workers. To put aside the psychoses for the present, and pursue the maladies of the sane, it may be said that the work of Duchenne de Boulogne is being extended, and the clinical observations of the French school join hands with the results of experimentation for which we owe so much to the Teuton workers Fritsch and Hitzig. The injuries of the nervous system have been fully described by Weir Mitchell, who occupies so honored a place in American medicine. Ferrier has, in this country, done immense service in grouping the information derived from various sources, and illustrating and advancing it by much

original work of his own, so as to throw the whole together in harmonious form. Hughlings Jackson has given a precision to clinical observation unknown before his time. Charcot has given nervous affections a prominence in France which without him they might not have attained. What would have been regarded as prodigies of diagnostic acumen almost incredible twenty years ago are now taken quite calmly, the perturbation due to novelty having passed away. Daily we are prepared to hear of a tumor being diagnosed and its locality so precisely ascertained that an enterprising surgeon has cut down upon it, dissected it out, and by dint of the most careful antiseptic precautions secured a happy convalescence,—the compressed portion of the cortex recovering its functions when relieved from the pressure. Nor would any such operation create great surprise: indeed, we are waiting rather impatiently for this to be done. There is certainly a wave of inquiry passing over us which is rapidly bringing with it practical results; and our knowledge of the diseases and disorders of the nervous system is extending to meet the accumulating demands upon it. No sooner does physiology make a step forward than practical medicine declares that this is the very precise and exact piece of information it was in want of to meet some newly-recognized condition, or some new emergency brings out a new nervous affection hitherto either unknown or unrecognized. The tread of advancing neurosal affections is audible enough: we hear it and its echo everywhere. We glance through a provincial newspaper and read that the magistrates have been greatly perplexed how to provide accommodation for the numerous insane, the demand for space being terribly on the increase. A new asylum to hold eight hundred inmates is absolutely necessary in a manufacturing county; a new wing is required in another county. Nervous affections among the sane are equally rife; and hospitals for diseases of the nervous system are springing up all over the land. It is not many years since, in the American Civil War, Da Costa observed "the irritable heart;" now it is quite a common phenomenon. The effects of excitement and nervous worry are impairing the assimilative powers, and indigestion stalks about,—a nineteenth-century monster. The chemist comes forward politely and proffers some vegetable diastase to help the little baby to digest the starch of its food; another blandly places before the dyspeptic a bottle of pepsin wine, and assures him that in it he will find a remedy for his troubles. The physiologist preaches the potency of the pancreatic secretion, and long ago (*i.e.*, in this quickly-moving age) Dr. Horace Dobell announced a pancreatic emulsion of fat for the consumptive. More recently, Dr. W. Roberts has held up before our gaze a bottle containing a bland but weirdly potent fluid,—the *liquor pancreaticus*,—some of which has only to be safely passed through the acid stomach under the guard of alkali, and, *presto*, the difficulties of digestion are overcome. Then followed peptonized foods of various kinds, as any one may read on the circular wrapped around each bottle of the magic fluid. The digestive act in the alimentary canal is rendered almost unnecessary in the economy. Just as this discovery dawns upon us, we are told that these peptones are a potential source of danger. Unless they are reconverted into proteids, they are toxic agents. The liver is a large gland which is also a filter. The products of gastro-intestinal digestion are elaborated therein for the albumen of the *liquor sanguinis*, or driven backward as waste into urea, or, when the metabolism is perverted, into uric acid. Certain parts of the surplusage are converted into bile for use in a lowlier form. At the same time we begin to note that mental states affect the liver; worry interferes with the later and higher part of the assimilative act. The liver requires a stimulant. Well, has not Professor Rutherford been engaged on that very subject? and a whole lot of hepatic stimulants have just been launched on the world. Each step forward in one direction is accompanied by a step onward in another. If neurosal affections are on the spread, we are on their track. Really, we must feel some respect for the human intellect, at least so far as the conflict with diseases is concerned, if in no other direction. The old Anglo-Saxon plan of rising to meet an emergency is once more to the front, and difficulties exist but to be met and overcome.

But to revert to the literature of diseases of the nervous system. There are the comparatively complete treatises of S. Wilks and Julius Althaus, the works of Ferrier as to localization of function in the brain and the localization of cerebral disease, with other less important but still valuable essays by Hughlings Jackson, Gowers, and others. But recently a large and ambitious treatise in two corpulent tomes has been put forth by a rising provincial physician, Dr. James Ross, of Manchester. Placed in a grand field for observation, Dr. Ross has availed himself of his opportunities, and this magnificent work is the outcome of his labors. To those already familiar with the systematic works of Hammond and of McLane Hamilton, this treatise will be specially acceptable. It is illustrated by numerous engravings, many copied from standard works, but more drawn from original sections, microscopic and other, made by the laborious author. Those who know Dr. Ross personally know how thorough and genuine is his work, and how complete his devotion to his task. An industrious, thoughtful Scot, he labors and toils away, comparatively regardless of the practical outcome of his labor, but devoted to his work. He com-

mences with an introduction on the structure and functions of the nervous system. In the chapter devoted to etiology he lays stress upon the unstable nervous system otherwise known as the "neurotic disposition." He regards ethyl alcohol as one of the most wide-spread of causes of disease of the nervous system. He is very precise about prefixing "ethyl" to alcohol. Further he writes, "Chemical poisons are being constantly generated in the system as the result of normal disintegrative processes; but under healthy conditions these are eliminated so rapidly by the excretory organs that they do not accumulate in sufficient quantity in the blood to injure the nervous tissues. When, however, the normal excretory processes are diminished or arrested by disease, or when an undue quantity of those poisons is generated, serious nervous disorder results. It is not, therefore, surprising to find that the diseases of the lungs, of the kidneys, and of the other excretory organs are frequently accompanied by grave nervous symptoms." The "trophic neuroses" are considered in a chapter of their own. The neuralgiæ are well described, the text being illustrated by good cuts. The second volume is a rather ponderous tome, evidently having grown under the author's hand till it has quite outgrown its older brother. It deals with the cerebro-spinal system, the diseases of the spinal cord and medulla being considered first. The arrangement is instructive and very interesting, and will repay careful consideration. Finally, the diseases of the encephalon are given, and the diseases of the encephalo-spinal system. Here the reader will find, if not all he would wish to know,—for, indeed, it would be a marvel of a book if it could do that,—very much that he wishes to know about a very interesting class of diseases, marshalled for him by a man who is master of his subject. The phraseology is adapted to the time, and represents the latest information on the subject treated of,—localized and diffused lesions. The affections of the different areas, lesions of the vascular areas supplied by certain arteries, diffused diseases of the cerebral hemispheres, encephalitis, diseases of the membranes,—all are given in serried array and order; lastly, paralysis, chorea, tetanus, hysteria, epilepsy, and toxic affections. If the reader is disposed to enlighten himself upon the diseases of the nervous system, and especially their pathology,—about which so much has been done of late,—he will have in this work a mine of wealth to explore. He will find Dr. Ross holding strong views about the large cells representing inherited matters, and large muscles, and the smaller cells representing individual matters; these last being the latest in development and the first to go in disease. He will find many lesions described into their minutiæ with all that the most modern research, physiological and pathological, can tell, arranged and digested for him in lucid form; plates of the changes found in hydrophobia and tetanus, with the leucocytes which are developed, *et hoc genus omne*. We have had few medical works of interest out this season, and Dr. Ross's is by far the most ambitious and most important issued so far, or likely to be. It is of interest, too, as showing that the metropolis does not contain either all the talent or all the energy, and that in the provinces there are quite as good men in every way. William Roberts and James Ross in Manchester, Clifford Allbutt in Leeds, Mitchell Banks and Braidwood in Liverpool, Balthazar Foster in Birmingham, Long Fox in Bristol, Phillipson in Newcastle, and others, as physicians, are equal to the leaders in London in the essentials of practice; while as to surgeons the list of provincial men is a formidable one. The peculiarities of each district are well worth the studying, and in the great cotton district Dr. Ross has a grand field for study; and those who read his book will probably rise from its perusal with the conviction that he is the right man in the right place. As disease manifests itself variously in different areas, it is well to have a photograph of it taken in each area: from a series of these photographs a typical representation of it may be constructed which will be at once representative and correct.

J. Milner Fothergill.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

A CONVERSATIONAL meeting of the Society was held at the Hall of the College of Physicians, Philadelphia, April 27, 1881, Dr. Albert H. Smith, President, in the chair. Papers were read by Dr. Roberts Bartholow on "The Therapeutics of Alcohol used Internally and Externally;" Dr. Henry Leffmann, on "The Medical Relations of the Commercial Adulterations of Wines and Liquors;" and Dr. H. C. Wood, "Is Alcohol a Food?—When Should Malt Liquors be Preferred to Wines and Spirits in the Treatment of Disease?"

DISCUSSION UPON ALCOHOL.

Dr. George Hamilton regarded the nourishment of the patient as the main point in the treatment of exhausting diseases: stimulants might aid nutrition, but cannot take the place of food. In declining years of life a moderate amount of alcohol may be of service, but in youth it should be used with the utmost caution. The recommendation of Todd had been too closely followed, and he could now see signs of a reaction against indiscriminate

stimulation. Typhoid fever is most likely to occur at from sixteen to twenty-one years of age, which also is a very fatal period. The mucous membrane of the alimentary tract being at this age unaccustomed to alcohol, the greatest caution should be observed in giving large amounts of stimulants. It is usually recommended to be given early in the disease, which he regarded as wrong. Even in phthisis it should be used with care. He believed that the physician is often unjustly blamed for having recommended stimulants to persons who form the habit of drinking to excess; and he cited a case where a man was said to have died a drunkard because a certain doctor had prescribed brandy for him. It was subsequently learned that the man was a drunkard before he ever saw the doctor.

Dr. H. C. Wood said that he was reminded that he had forgotten to refer to the use of alcohol as an antiseptic. In simple alcohol we have an antiseptic agent which is capable of banishing Listerism from surgery, if properly used. He would simply dress the stump with a cloth kept constantly wet with alcohol. No germs could possibly enter the wound, and the remedy is much safer than carbolic acid. He could not admit, however, that alcohol exerts this same antiseptic effect after entering the blood: the protoplasm of the blood-cells is just as delicate as the protoplasm of the micrococci. Such treatment would be like the proposal to kill trichinæ in the muscles by giving the patient picric acid: before it poisons the parasite, the patient becomes translated.

He agreed with the last speaker in condemning the abuse of alcohol as an antipyretic. Alcohol should not be used in a routine manner in fevers, but should be held in reserve. It is of use in low fevers in other ways than as an antipyretic. From a number of calorimetric observations upon animals he had concluded that alcohol had no influence upon tissue-change or the production of animal heat, but does exert an influence upon the throwing out of heat from the blood. The temperature falls because more heat is dissipated, for the same reason that it falls after section of the spinal cord. Vaso-motor palsy leads to a decline in the temperature, whether caused by injury or by alcohol. It is very plain that if alcohol is to be given to produce reduction of heat in this way it will have to be given in large doses,—large enough to produce vaso-motor paralysis and depression, which we do not want caused in low fevers, and therefore cannot usually give it to reduce the heat to the normal temperature. As regards the quantity required he would not lay down any absolute rule. He referred to a case in which a man, after a rattlesnake-bite, took about two pints of whisky with only good result: an amount which in health would have depressed the heart only elevated its power under these circumstances. It is so in low fevers. Eight or ten ounces per diem in a low fever may produce no more effect than two or three ounces in health. A young lady suffering with typhoid fever under his care had a pulse of 140. He increased the stimulant until she was taking one ounce of whisky every three hours; but finding it impossible to keep it down below this point, as it was at the rate of 160 at the time of his visit one night, he increased the stimulant to two ounces every two hours. The next morning it was down to 120. It seems, in some cases of low fever, that an amount of alcohol, which could produce fatal depression in health, may only act as a vital stimulant.

Dr. Addinell Hewson saw something inconsistent in the last speaker's remarks. He had spoken of the effects of alcohol in retarding cell-growth when referring to its antiseptic effect; he had also mentioned an effect upon the blood-cells and in retarding the movements of the white corpuscle. As all tissue-change is dependent upon cell-growth, the speaker did not see how alcohol could influence the cell-movements without at the same time effecting tissue-change. This is the teaching of experience; and it therefore happens that alcohol often impairs nutrition rather than benefits it. The effect of alcohol upon the gastric juice is to precipitate the pepsin. To these facts may be attributed the injurious effects of alcohol in some depressing diseases.

Dr. C. B. Nancrede said that the alcohol-dressing of wounds was an old treatment. He thought that experiments made many years ago by Onimus, of Montpellier, upon animals demonstrated that it was not necessary to import micrococci in order to account for suppuration, showing, in fact, that the circumstances favoring suppuration and those developing micrococci are identical. He thought that there was danger of these experiments being overlooked. Fluids swarming with bacteria, which produced active effects upon the organism, were treated with bromine, chromic acid, and acetic acid, which were found to destroy the power of the septic influence of the fluids, but not the number or activity of the vibrios.

Dr. Toboldt said that he had seen bacteria flourishing in a sixty-per-cent. solution of alcohol, where they remained for more than a year without obvious change.

Dr. Hamilton noticed the diversity of practice. Some physicians say that they cannot get along without alcohol in the treatment of typhus and typhoid fevers, and others, on the contrary, never use it at all. If the same results always followed the alcohol treatment, its use would be more general.

Dr. J. T. Eskridge said that no precise rule could be laid down as regards the amount to be used. In one case he had given thirty-six ounces of brandy daily for several days,

with successful result. It was in the fourth week of a relapse of typhoid fever. The patient did not take much alcohol in the first attack, but in the relapse the temperature reached 105°, the pulse 160. Brandy was increased to one and a half ounces every hour, and continued for about six days. The patient finally recovered. As the pulse came down to 110 and the vital forces were restored, the stimulant was gradually reduced.

The speaker also referred to the value of stimulants in atonic dyspepsia, given directly after eating.

Dr. O'Hara had not seen adduced any satisfactory evidence that alcohol is a food. It is not used to nourish young children, nor to build up the strength of prize-fighters when in training. He agreed with the lecturer as to its value in low fevers, where it does seem to supply force to the patient. He regarded the whole question of its food-value, however, as still *sub judice*.

Dr. Bartholow said that he had no doubt whatever that the position taken by the writers that alcohol is in a very limited sense a food is correct, and one supported by the authorities of our time. Of this there can be absolutely no doubt: a substance undergoing oxidation in the organism is in the position of other hydro-carbons in the food. Alcohol is very valuable as a food, for it spreads out over the whole surface of the lungs, where it yields its force very promptly, as it is very readily oxidized.

In regard to its antiseptic action, he could speak of its good effects in preventing local putrefaction. For eight years he had served as military surgeon, and had had charge of several large military hospitals: he therefore spoke of what he had seen when he says that it is entitled, in his opinion, to the place scarcely inferior to carbolic acid. In referring to what had been said in regard to the septic character of fluids independent of minute organisms, he said that it is true that there is a substance different from these bodies which can produce injurious effects; but the speaker had evidently not seen the report of Burdon Sanderson's experiments to the Privy Council, from which the conclusion to be drawn is that minute organisms play a very important part in the production of sepsis, but they are not septic themselves. It is not the minute organisms, but their action, that concerns us, while it is seen that their discussion is a very important subject, as it concerns the development of poisons connected with their presence.

Dr. W. R. D. Blackwood said that from an extended experience as an army surgeon and in private practice, he could endorse the alcohol treatment of wounds. He had not seen better results from Listerism. He had at the present time two stumps under treatment, which had had nothing on them but alcohol. He was perfectly satisfied with the dressing.

Dr. W. H. Parish said that brandy is a very valuable remedy in cholera infantum; cases are lost from not resorting to it sufficiently early. He referred to genuine cholera infantum, and not to entero-colitis. He had found that it would stop the vomiting; he also applies cloths wet with whisky to the epigastric region. Too much reliance is placed generally upon minute doses of calomel, and the brandy is left until it is too late. He agreed with Dr. Bartholow regarding the proper time of administering stimulants and the importance of proper dilution. Hypodermic injections of brandy or whisky in surgical cases lessen shock and the danger of hemorrhage. They should not be given with a view of counteracting the effects of ether, which should never be pushed to its depressing effect in such cases.

Dr. W. S. Stewart noticed that the stimulants in low fevers do not intoxicate the patient, and cannot be detected in the breath even after large doses.

Dr. C. H. Thomas said that the question whether alcohol is or is not a food is an important one; but there can be no question but that in many cases it acts like a food. He cited a case of a lady who received a severe nervous shock and was almost insane in consequence. She was constantly vigilant, would take no food whatever, and was rapidly losing flesh: in ten days she lost between thirty and forty pounds. It was determined, on the third or fourth day, to give her whisky, of which she took some every hour, amounting to a quart a day. At the end of the tenth day she slept well, and for the first time complained of the amount of whisky, which was rapidly reduced,—the next day to one pint, and the following day to half a pint. In a few days more after she had begun to take food regularly, she could not take a wineglassful of whisky without its flushing her face. In this case alcohol acted like a food, at least until other food could be taken.

Dr. Nancrede said that as a comparison had been made between the results of local use of alcohol and those of Lister's method, he would say that he was not an advocate of Listerism, but would inquire whether any surgeon in Philadelphia had adopted fully the genuine treatment as recommended by Lister. He thought not. We are therefore not in a position to speak of its results from experience.

Dr. Bartholow, in reply to a question, said that alcohol should not be given hypodermically to relieve the narcotic effect of ether or chloroform, because, having similar physiological effects and acting like them, it will only add fuel to the fire.

Dr. H. C. Wood, in conclusion, said that in regard to the question of alcohol acting as a food in childhood, it is paradoxical but true that if you wish to make a stunted child grow you should use alcohol, and if you wish

to stunt a child you can do so by alcohol, simply because small amounts aid digestion and large amounts disturb it and prevent assimilation. With regard to the non-appearance of alcohol in the breath in low fevers, he would account for it on the ground that the alcohol was used up in the system.

REVIEWS AND BOOK NOTICES.

A Manual on Diseases of the Eye and Ear. For the Use of Students and Practitioners. By W. F. Mittendorf, M.D., etc. New York, G. P. Putnam's Sons, 1881. 8vo, pp. 445.

A new manual of eye and ear surgery has been thrown into the arena,—we ask, what for? The author in his preface says, "The want of a short, practical manual of the diseases of the eye and ear in the English language has long been felt by the medical student. I have therefore," etc.,—the well-known apology.

"Fully illustrated"!—very fully. We turn page after page until we reach 285 before we find a single wood-cut, with the exception of two, showing Hotz's operation for trichiasis. Becoming anxious, we carefully turn and scan, when, to our great surprise, three well-known ones modestly look us in the face, and, in a half-frightened way, seem to say, "Oh, have you found us! we are so lonely." Following up the trail, we unexpectedly burst into what, at first sight, appears a fairy-land of promise. What do we see? The dear old Liebreichs: they greet us,—try to shake hands as cordially as they did when we were young. The dear old theoreticals, the typicals. We know that Wells used you until you became aged and decrepit; and here you come to meet us in your second childhood.

On page 193 we find that Daniel has been credited with a spoon; but what that poor man, in all his troubles, wanted with a cataract-spoon it remains for the author to tell us, as we cannot think he could spoon a healthy, unanæsthetized lion. Possibly the best way to find out would be to follow Dr. Holmes's proposition in the Mary Chase case,—subpœna Daniel.

A gross mistake is made on page 318, in confounding the visual angle with the angle existing between the visual axis and the optic axis.

In Graefe's test, on page 66, mention should be made of the crossed diplopia, to render the meaning complete.

On pages 142 and 181 we cannot agree that the most favorable place for artificial pupil is up and in.

Throughout, the pathology is borrowed from Alt.

On page 247, in speaking of central scotomata, we are not sure that the valuable hint of the patient not seeing the surgeon's nose, but his ears, when the visual line of the patient is pointed towards the tip of the surgeon's nose, is based upon experience; but of two things we are almost certain,—that either "the medical profession at large" for whom this book was written are all considered to be blessed with extensive auricles, or all central scotomata seen by the author have been exceedingly limited in area.

Space forbids us to enumerate the many defects in grammar, punctuation, and spelling, especially the spelling of the well-known names of Mariotte and Carmalt; and some of the formulæ would make good Jonathan Pereira sigh in his grave.

Possibly, with more careful proof-reading, the substitution of better plates, and the insertion of explanatory wood-cuts, the work may be rendered of great value, as it really contains a vast amount of practical information expressed in an easy and comprehensive style. C. A. O.

A Treatise on Diseases of the Nervous System. By Wm. A. Hammond, M.D. Seventh Edition. New York, D. Appleton & Co.

The most important changes in the present edition consist in the translation of certain articles affixed to the Paris edition of Dr. Hammond's book by the French editor, Dr. Labadie Lagrave. With these and the other less important changes the book is more complete than ever before.

A Medical Formulary. By Dr. Laurence Johnson. Wm. Wood & Co., New York, 1881.

We presume somebody uses books of the present class, else they would not be so persistently published. Why, with the aid of the "Pharmacopœia," the magister cannot invent his own formulæ to suit his individual cases, we never could quite understand. Not being able to appreciate the value of books of the class, we may very readily err in judgment as to the individual integers; but, so far as our judgment goes, the present volume seems to be good of its kind.

GLEANINGS FROM EXCHANGES.

Acute Prostatitis.—At a recent meeting of the Medical Society of London (*Lancet*, vol. i., 1881, p. 738), Mr. Reginald Harrison, of Liverpool, read a paper on acute prostatitis, of which he distinguished two forms,—the follicular and the parenchymatous. The former is most frequently seen as a complication of gonorrhœa, and suppuration is exceptional. In reference to suppuration and the insusceptibility of the muscular element of the prostate to inflammation, Bumstead's observations

apply accurately to follicular prostatitis. He says, "There is never at the outset an abscess of considerable size. Such occurs only by the coalescence of a number of small ones seated in the follicles. Meanwhile the muscular tissue which constitutes so large a portion of the prostate gland is unaffected, except that it is in a constant state of contraction, thereby inducing urethral and rectal tenesmus." The other form of prostatitis, the acute general or parenchymatous, is much more serious, the whole mass of the prostate becoming inflamed and tending to suppurate rapidly. Here, unless the treatment is prompt and decisive on the first appearance of fluctuation, as detected by rectal examination, the most serious results both to structure and life are apt to follow. It is a rare form of the disease, and usually found only in those whose constitutional powers are much deteriorated, or whose urinary organs have been more or less damaged by long-continued obstructive disease. Some instances which have been observed by Mr. Harrison have been apparently due to a previous state of tuberculosis of the gland. The occurrence of suppuration is to be carefully looked for, as the spontaneous escape of matter in such directions as the rectum, bladder, and peritoneal cavity is likely to be much more detrimental than the opening which the surgeon would afford. Gangrene of the prostate sometimes occurs as a result of inflammation. Inflammation and suppuration around the membranous portion of the urethra, not uncommon in gonorrhœa and phlebitis of the vessels forming the prostatic tissues, simulates prostatitis. The former presents many points of resemblance to inflammation of the gland, but is distinguished by the presence of perineal tumefaction and digital examination of the rectum. In the treatment of prostatitis the local abstraction of blood and hot applications are most efficacious at the outset of the disease. Hot enemata, as advised by Guthrie, and the injection of hot water into the urethra by means of a douche, are also to be recommended. Mr. Harrison is strongly opposed to the use of purgatives, as causing pressure to be exercised on the inflamed prostate by the levator ani muscle and being opposed to the principle of rest in the treatment of an inflamed part. The occurrence of suppuration is to be carefully looked for. Any formation of matter not to be detected by the finger in the rectum may with safety be left to evacuate spontaneously; when, however, fluctuation is in this way detected, a perineal incision becomes imperative. Incision is to be preferred to puncturing the abscess with a trocar by the rectum. Stress is to be laid upon the great importance of rectal examination in all these cases, or in those simulating it, and for this purpose, should the pain or tension be so great as to interfere with the thoroughness of the procedure, an anæsthetic is to be used. Dr. Pitman, of St. George's Hospital, has recorded a case where abscess of the prostate occurred as a sequence to gonorrhœa without any of the ordinary symptoms, and led to the death of the patient. An occasional consequence of follicular prostatitis is a more or less permanent dilatation of the follicles, and this is believed to be a not uncommon source of prostatorrhœa, a complaint well described by Professor Gross, and often very difficult to cure.

A Method of Treatment for Certain Kinds of Incontinence of Urine in Women.—Dr. Chapman, in a paper read before the Edinburgh Obstetrical Society (*Edinburgh Medical Journal*, June, 1881, p. 1095), referred to a class of cases, not those where incontinence is complete, but where on testing the bladder's retaining capacity it is found to be less than the normal. He gives in illustration the case of a married woman of 58, who complained of frequent and painful micturition which had lasted three and a half years. On September 30, 1880, it was found she could retain water only half an hour. The pudenda were reddened, as was also the whole vagina. The urethra was somewhat gaping at its outlet. There was considerable pain evinced on rubbing the two walls of the bladder over each other, or on introducing the sound into the viscus. The urine was turbid, acid, and contained pus cells, bladder-epithelium, and some oxalates. The urethra was dilated with the finger, with the result of increasing the bladder's retaining limit to one and a half hours. At the same time nux vomica and uva ursi were given, and the vaginitis treated by sedative applications. The good effects of the dilatation disappeared in about three weeks, and it was then repeated; but soon she again relapsed into her former condition, minus, however, the pain and the presence of pus in the urine. The urethra was examined by the endoscope, and a slight redness observed. Iodoform bougies were used. The condition of the bladder-wall as seen by the endoscope was normal, and now (November 8) her only trouble was that every hour—day and night—she had to empty her bladder. The total quantity of urine passed was fifty ounces, which gave little more than two ounces as the amount at every micturition. The sound passed into the bladder three inches from the external meatus, and it was found that it could be pushed only half an inch farther, and that thus pain was caused. It occurred to Dr. Chapman that gradual forcible dilatation of the bladder might relieve the patient. The bladder was distended with warm two-per-cent. carbolic acid solution, and the quantity used measured and found to be four ounces. Any attempt to inject more caused the most intense pain, and the resistance offered was great, as could be felt by the difficulty experienced in compressing the ball of the syringe. From this date the bladder was filled to distention daily, the injection

being stopped when the patient's pain became great and when resistance reached a high point. The apparatus used was a Higginson's syringe attached to an ordinary catheter, care being taken to prevent the access of air to the bladder. Each day there was a gradual increase in the amount injected, of from a drachm to an ounce. On two or three occasions the fluid as it returned was tinged with blood; but no harm ensued. On December 20 she was discharged in the following condition. Instead of micturating every hour, she had only to get up once or twice through the night, and by day she could retain water so well as not to be inconvenienced. Sixteen ounces could now be injected into the bladder, and less pain was thereby caused than formerly when four ounces was the limit. The urine was normal in all respects. Two months later the patient reported herself as continuing well in all respects.

Stertorous Breathing in Apoplexy and the Management of the Apoplectic State.—In a paper on this subject in the *British Medical Journal* for May 28, 1881, Dr. Robert Bowles says that the causes of stertorous breathing in apoplexy are mechanical, and can at all times be so changed as to alter altogether the nature of a case, and often to make the difference of recovery or death. The truth is, two separate conditions of the apoplectic state have been jumbled together and treated as one,—the cerebral affection and the condition of suffocation consequent upon it. Stertor in one sense is but a croup in the pharynx, or apoplexy *plus* suffocation, as croup is laryngitis *plus* suffocation. We feel it necessary to relieve croup by a serious operation; whereas stertor is left to itself, although it may be relieved by merely changing the position of the body.

Dr. Bowles divides the various forms of stertor commonly observed as follows:

1. *Nasal stertor* arises from paralysis of the nerves supplying the elevators and dilators of the alæ nasi, so that the ingoing air, as in sniffing, draws the alæ nasi towards the septum, and sometimes causes a serious obstruction to the breathing, and certainly hastens death, as well as needlessly distresses the bystanding and sorrowing relatives. It is often a symptom of the gravest kind, is unaffected by the position of the body, but may always be relieved by mechanical means.

2. *Palatine stertor* occurs when the air in rushing through the nose or mouth causes a vibration of the soft palate. It is usually of the least consequence; *i.e.*, it obstructs the breathing only very partially, and cannot always be removed by changing the position of the body. It is affected by the size of the tongue, the length of the uvula, the position of the chin, and other incidental conditions, all of which may be obviated if the obstruction to the breathing be sufficient to render it worth the doing.

3. *Pharyngeal stertor* is the most common in severe cases of apoplexy, when patients are recumbent. This may always be obviated by properly arranging the position of the patient, allowing the paralyzed mass—the tongue—to gravitate to one side rather than against the back of the pharynx.

4. *Mucous stertor*, when unconnected with lung-engorgement the consequence of suffocation from stertor, occurs only in very serious cases, depending upon interference with the nutritive processes of the lung-tissues, probably arising remotely from accident to or pressure upon the medulla oblongata. This can always be satisfactorily removed by proper attention to the position of the body.

These principles apply not merely to apoplexy, but also to all apoplectic conditions. Especially may be mentioned drowning, epilepsy, convulsions in children, meningitis with effusion, death-rattles, fracture of the skull, concussion, bronchitis (especially that of old people), sudden œdema of the lungs, large hemorrhage from the lungs, and also all conditions allied to the apoplectic, whether there be mucus or not.

A Case of Croup treated by Passing Catheters into the Trachea by the Mouth.—Dr. J. Wilson Paton (*British Medical Journal*, vol. i., 1881, p. 803) gives the case of a child of three years suffering with a cough following measles. This gradually increased in severity until one night Dr. Paton was called and found him suffering from intense dyspnœa, quite unable to speak, and his lips of a dark, livid color. The cough was constant, brassy, and without expectoration. The respirations were thirty-five per minute, the cartilages of the ribs and sternum being drawn in at every effort to breathe, and crepitation existing over both lungs. The fauces were healthy; the pulse was 144, very weak. Having a No. 11 prostatic catheter with him, Dr. Paton determined to pass it into the trachea instead of performing tracheotomy. Watching an opportunity while the tongue was depressed with a spoon, the catheter, curved a little more than usual, was passed into the trachea during an attempted inspiration, and without the slightest difficulty. A severe struggle followed, lasting perhaps a minute or two, the face becoming purple and the eyes staring with fully-dilated pupils. The paroxysmal efforts to expel the tube being unsuccessful, a pretty full inspiration, partly through the tube and partly through the larynx, followed; about two ounces of frothy, bloody, and purulent mucus were ejected by the tube and the mouth; the livid color disappeared, and the child lay down, breathing easily through the tube. The presence of the tube did not prevent his swallowing milk, although sometimes a little of this was ejected from it during a cough. The tube was retained *in situ* by a strip of plaster, and the teeth were prevented from closing on it by

means of a pear-shaped piece of hard wood.

Six hours later the little patient was much easier, though the cough continued. A bronchitis kettle was used in the room. The tube was removed without trouble after it had been in the trachea about eleven hours, as he had bitten it and no air was passing through it. Shortly after its removal symptoms of obstruction gradually reappeared, and an ordinary gum-elastic catheter, No. 12, was introduced, only a slight momentary struggle and cough supervening. The presence of the tube led again to a very free expectoration of mucus. In the course of a few hours the respirations and pulse became lower, and crepitation and dyspnœa ceased. When the tube had been in for forty-eight hours and a half it was removed, and not again introduced. Further recovery was rapid and complete.

Bromide of Potassium in the Convulsions of Children.—Dr. MacDonald (*Edinburgh Medical Journal*, 1881, p. 1094) says he has found bromide of potassium, preceded by a dose of calomel with sugar, a most efficient remedy for the convulsions of children. Recently he gave ten grains in four hours to a child seven months old, which was convulsed every half-hour, with perfect result, and this been followed in all cases. Four or five grains every four hours has generally been sufficient, with, of course, the ordinary adjuncts of bath and linseed poultice along the spinal column.

Acute Urticaria from a Single Dose of Iodide of Potassium.—Dr. Jordan Lloyd (*British Medical Journal*, May 21, 1881) gives the case of a man suffering from syphilis who took four grains of iodide of potassium in water, which was followed three hours later by an urticarious eruption. The rash appeared subsequently on several occasions after taking the same dose. Dr. Lloyd saw him once three hours after taking a three-grain dose. He then had a copious eruption of reddish indurations over the face, neck, and arms, but no gastric disturbance and no coryza.

MISCELLANY.

The Treasurership of the Pennsylvania Hospital.—The resignation of John T. Lewis, treasurer of the Pennsylvania Hospital, has been accepted by the managers of that institution, and Henry Haines elected as his successor. At a meeting of the managers held recently, a minute was adopted expressive of the esteem in which Mr. Lewis is held by the managers, and of the value of his long and faithful services. It stated that the charitable work of even old communities presents few, if any, parallels to the continuous and uncompensated service of the four members of the Lewis family, representing three successive generations and covering a period of over a century in the watchful and judicious care of the funds of the institution. The several terms of office of the four have been as follows: Mordecai Lewis, elected 1780, died 1799, eighteen years and eight months; Joseph S. Lewis, elected 1799, resigned 1826, twenty-seven years; Samuel N. Lewis, elected 1826, died 1841, fourteen years and eleven months; John T. Lewis, elected 1841, resigned 1881, forty years and three months.

Medical Lectures and the Law of Copyright.—In an editorial in the *New York Medical Journal*, Dr. Foster calls attention to the recent legal decision of the Supreme Court of the State of New York in the matter of Putnam's sons against Dr. Leo T. Meyer. The questions involved were,—1, the right of lecturers to retain full property in material which has been publicly delivered in the form of lectures, and, 2, the value of a verbal permission "to print" as affecting a formal contract to publish. The decision was in favor of the lecturer, who may now, if a man of some reputation, deliver his clinical lecture without fear of the garbling fiend on the back bench who is taking down his colloquial slips of expression while leaving out his wisest aphorisms, and who appears to glory in turning the wisdom of the sage to the drivel of the babbler in his "Clinical Lecture, by Prof. Bigbug, reported especially for the *Hospital Leaflet and Clinical Reflector*."

The Climax of the Antiseptic System.—At a recent duel, says the *Lyon Médical*, the adversaries were about to cross swords, when a voice called upon them to stop. It was that of the surgeon in attendance, who, imbued with modern ideas, taking from his pocket a bottle of carbolic acid carefully wetted the points of the weapons. He then exclaimed, with the air of a man who has done his duty, "Proceed now, gentlemen; you may kill each other, but at all events you are safe from purulent infection."

Fuming Inhalations in Asthma.—The following is the approximate formula of the quack remedy employed by the late Lord Beaconsfield with relief:

℞ Potas. nitrat., ℥ss;
Pulv. anisi fruct., ℥ss;
Pulv. stramonii fol., ℥i.—M.

A thimbleful placed on a plate is pinched into a conical shape, and, lighted at the top, burns like a pastile, and is held near the patient, who inhales the fumes.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM JUNE 26 TO JULY 9, 1881.

Koerper, E. A., Captain and Assistant-Surgeon.—Granted leave of absence for two months and fifteen days. S. O. 143, A. G. O., June 24, 1881.

PHILADELPHIA, JULY 30, 1881.

ORIGINAL COMMUNICATIONS.

WEAK EYES IN THE PUBLIC SCHOOLS OF PHILADELPHIA.

*THE REPORT OF THE COMMITTEE ON EXAMINATION OF THE EYES OF THE CHILDREN IN THE PUBLIC SCHOOLS OF PHILADELPHIA.**

BY S. D. RISLEY, A.M., M.D.,

Chairman of Committee, Lecturer on Ophthalmoscopy in the University of Pennsylvania, Ophthalmic and Aural Surgeon to the Episcopal Hospital of Philadelphia.

MR. PRESIDENT AND GENTLEMEN,—On June 22, 1878, I was honored in the reception of the following letter from the Recording Secretary of the Philadelphia County Medical Society:

"S. D. RISLEY, M.D.:

"DEAR DOCTOR,—At the stated meeting of the Philadelphia County Medical Society, held June 18, 1878, you were appointed chairman of a committee under the following resolution:

"WHEREAS good vision is of great importance in the career of every individual, its defects insuring more or less hindrance to success in life;

"AND WHEREAS many of these defects of sight, notably myopia, are caused or made progressive during school life, as is set forth by numerous investigators in other cities both in this country and in Europe;

"AND WHEREAS it is believed that proper attention to the lighting, seating, hours of study, character of type in text-books, etc. etc., will do much to obviate defects of sight:

"*Therefore Resolved*, That the Philadelphia County Medical Society respectfully request the School Board of Philadelphia to extend every possible opportunity to a properly authorized member or members of the Society to examine the eyes of the children in the public schools of Philadelphia, and to investigate all matters pertaining to their vision and the preservation of the same.

"The committee consists of five, as follows: yourself, chairman, A. Nebinger, L. Brewer Hall, A. G. Heyl, J. Collins.

"Very respectfully,

(Signed), "H. LEAMAN,

"*Recording Secretary.*"

Immediately on the receipt of this communication a meeting of the committee was called for consultation, resulting in the attendance of Drs. Hall and Collins, and a card from Dr. Heyl, declining to serve upon the committee.

A copy of the preamble and resolution was sent to the Board of Public Education for their consideration. The request conveyed in the resolution was freely granted, and the hearty support and co-operation of the Board assured. The proceedings of the Board were, as usual, published in the daily papers, and the great interest felt by the community in the work of your committee was at once manifested. The chairman of the committee was forthwith waited upon by numerous representatives from the various newspapers of the city. A long editorial notice of the nature and motive of the work proposed by the Society appeared in the *Philadelphia Press* of September 30, 1878, which closed with a request for the support and earnest co-operation of the teachers and parents. Many letters were received from private individuals, some of whom were the parents of children attending the public schools, tendering advice, making suggestions, or expressing gratification that so important a work had been undertaken. In this manner was indirectly expressed a deep anxiety regarding the vision of the school-children. Thus under favorable auspices the work was begun early in October, 1878.

At the request of Dr. Nebinger, the first examinations were undertaken at the George W. Nebinger Grammar School, in the southern section of the city. The directors' room was placed at the disposal of the committee, and everything possible done to facilitate their labor. It is appropriate that the thanks of the committee be tendered to Miss Bryan and Mr. Sharp for their kindness and courtesy in aiding your committee,—the former the principal of the Girls' Grammar, the latter the principal of the Boys' Grammar School, both of which meet in the same building.

The *personnel* of the committee as it appears upon the minutes of the Society has during the progress of the work been subjected to a number of changes. As already mentioned, Dr. Heyl did not accept the appointment upon the committee. It was understood that the part of the work falling to Dr. Nebinger was to look after the interests of your committee in the Board of Public Education. Dr. Collins very soon found that the demands of his private practice made it impossible for him to aid regularly in the work of the committee: so that Dr. L. Brewer Hall and myself were left with a

* Read before the Philadelphia County Medical Society, April 13, 1881.

work of no little magnitude resting upon us. In order to further the work of the committee, it was desirable that more aid should be secured; and we were successful in securing the valuable assistance of Dr. James Wallace, one of the assistants in the Eye Dispensary of the University Hospital, Dr. Heilman, of the Philadelphia Dispensary, and Dr. Eskridge. The thanks of the committee are justly due and are hereby tendered to these gentlemen for their skilful aid and the untiring diligence which for two school years, three times each week, found them at their post of labor. During the third year Drs. Francis M. Perkins and Gordon M. Christine generously consented to assist in the work, Drs. Wallace, Heilman, and Eskridge finding it impossible to continue their labors with the committee. Finally, Mr. President, I am indebted to Dr. B. Alexander Randall, who has been almost my sole assistant in tabulating the extended observations and in the preparation of this report, a labor the magnitude of which has exceeded very far my anticipations as well as my strength, when added to numerous other cares.

In presenting this report, Mr. President, I beg leave to state that the most that can be claimed for it is a report of progress. In the first place, we have been able to study the eyes of a very few hundred children, while the field before us contained upward of seventy-five thousand.

The opinions herein expressed, although seemingly justified by the collated facts, are not to be regarded as final; since a still more extended observation might make it necessary to revise too hastily formed judgments. During the progress of the examinations it has been found necessary to relinquish opinions before entertained regarding many things in the educational methods pursued in the public schools of Philadelphia; yet it is believed the opinions which have been formed should have some weight in the minds of the educators and those who direct their labors.

Having thus called attention briefly to the history of the formation and work of the committee, I ask your careful consideration of the motive of the work undertaken, and the important questions it was hoped the examination of the eyes of the school-children, during their educational process, might solve.

S. D. Risley, M.D.,
Chairman of Committee.

Having in view the great importance of good vision to the student, it is justly a matter for surprise and condemnation that so little care has been manifested by parents and teachers. Indeed, they seem to have been in most cases quite unmindful of the condition of vision in the pupils they propose to educate. Our children are sent to school without even the most cursory inquiry as to whether their eyes are fitted to perform the important and arduous duty before them in the long educational process; this, too, in the face of the fact that they are to be the most important agent in the acquisition of knowledge. The utmost attention is given to the teeth, lest through neglect they should decay; but the eyes are allowed to enter upon the important duties of school life without a thought of their welfare. Yet the importance of such supervision can hardly be overstated.

Perfect eyesight is not only necessary for the successful performance of the ordinary school duties, but has much to do in the formation of both the moral and physical characteristics of the individual. The boy who is constantly subjected to the painful eye-strain required to overcome an anomaly of refraction cannot, other things being equal, compete successfully with his more highly favored companions with normal eyes. Two courses only are open to him. He may by dint of perseverance and pain contend successfully for the prizes of school life; but he succeeds at the expense of injury to his eyes. On the other hand, finding the struggle a painful one, he retires from the unequal conflict, and is found, still a mere youth, contending for the rewards of life in mercantile or other pursuits. If compelled by parental authority to remain at school, the task, at best a difficult one, is either neglected or necessarily so imperfectly performed that it sooner or later becomes an impossible one. The class of which he is a member advances step by step from the rudiments to their application in the acquisition of real knowledge; but with each step he finds the difficulties thickening about him, since a knowledge of the rudiments is necessary to a proper understanding of what he is now expected to learn. Understanding these imperfectly, it soon becomes impossible for him to go on successfully: so he proceeds in a dazed way, deceiving his teacher and his parents, such deception being necessary to keep him from utter

disgrace. The book is smuggled into the recitation-room and slyly consulted to make up for deficiencies in preparation; or, at best, the memory instead of the understanding is called into action. Conscious himself of the inferior and unworthy position he occupies, he loses that self-respect which is always the bulwark of an honorable man, and finally passes out into the world with only the semblance of an education, and with elements in his character which are in a measure the creation of his defective vision,—elements of character which shall ever afterwards prove a barrier to the highest success; for the best prizes fall only into the lap of the honorable citizen. It is true that this may be regarded as the picture of an extreme case: it is one, however, which is too frequently exemplified in our midst. In a minor degree the same principle is operative in thousands of the children attending our public and private schools to-day.

If near-sighted, the effect over the character of the individual manifests itself even earlier in life, possibly in a less pernicious way so far as the moral character is concerned, but with a deleterious effect over the physical constitution, mental habits, and manners of the individual. The peculiarities of the near-sighted person are so marked that, if the defect has not been corrected early in life by optical means, the most casual observer recognizes him among his fellows. The proneness to sedentary pursuits, and the habit of abstraction and apparent disregard of friends and acquaintances in places of public resort, are facts noticed and condoned. That these characteristics of the myope depend upon his near-sight we need not go far to show. The near-sighted boy, *e.g.*, cannot fairly compete with his more fortunate fellows in the sports of the playground, since their requirements lie beyond the range of his vision. An attempt at cricket or base-ball must necessarily subject him to the ridicule of his companions, since, thrown even from his own hand, the ball soon leaves his range of clear vision and he is unable to judge of the accuracy of its flight. In returning, it comes within his limited area of distinct sight, if perceived at all, so suddenly that the most dexterous movements cannot compensate for the loss of time in perceiving its approach. Thus, in consequence of a physical defect, of the existence of which he may himself be entirely ignorant, he is driven from the campus by the ridicule or neglect of his fellows,—a very natural result of his inaptitude. The invigorating out-of-door sports are one by one sacrificed to more sedentary pursuits. He reads constantly, not as a matter of duty or from a desire for knowledge, but because it is the only pastime left open to him. The habit grows upon him, and he reads apparently for the sake of reading, with no thought of the acquisition of knowledge. The constant reading gives no time for reflection or the proper comprehension and digestion of what is read. A condition of mental engorgement is thus brought about, which is as foreign as possible to a true educational process. Such a child is less troublesome than the wild and rollicking boy with his ball and bat and ruder manners, and so his sedentary habits come to be encouraged. He is regarded as studious, and too frequently as a prodigy of learning: so it constantly happens that his inordinate craving for books is fostered instead of condemned, the vain hope being entertained that in the future all this devouring shall prove the basis of brilliant literary accomplishment. He becomes retiring and diffident. Away from home amid strange surroundings the myope is hesitating and cautious. He goes out into the world devoid of that practical skill which characterizes the successful man of affairs; for it must be remembered that his defect of sight is operative at all times, not only on the college campus, causing directly his inaptitude there, but playing an important rôle in all the details of life. As the partially deaf child with good vision depends for his understanding of conversation largely upon the facial expression and movements of the lips of the speaker, and loses the lower tones and least accentuated parts of the spoken sentence, and thereby learns to talk in broken angular sentences; so the near-sighted child learns to rely upon the tones of the voice, since the facial expression of the speaker is not seen. He is thus more readily deceived, since he loses this great aid in the interpretation of individual character. He hears the bustle and noise of the busy world around him, but does not readily throw himself into the current of passing events. He hears the talk about the beautiful landscape, but it is all a blur to him. He thus, as a matter of compulsion, occupies a world of his own, constituted by his narrow range

of vision and the ideals built up from his extended reading of books, without the possibility of comparing the descriptions of the author with the realities in nature. Within this limited world it is natural that he himself should be the most prominent factor.

If then these deductions are well drawn,—and we believe they are justified by daily observation,—if not only the physical constitution but the mental habits and moral character of the individual may be subject to serious impairment and modification in consequence of defective eyesight; it becomes a matter of serious moment to every community to avoid, as far as may be, the occurrence of defects of vision, and, when present in the individual, to neutralize, if possible, the consequences of such defects.

That various defects of sight exist in eyes which are thought to be perfect by both parents and teachers, is a fact well established by the daily observation of every ophthalmic surgeon, and demonstrated by the extended observations of numerous investigators in the schools of Europe and the United States. It has been shown by these observers that one of the most important of these defects, namely, myopia, is present in very much larger percentage in the advanced classes. That is to say, it was proven that near-sight was acquired by a large number of school-children who began the educational process without such defect in their vision.

This main fact had been repeatedly demonstrated; nevertheless but little light had been thrown upon the essential cause or causes of the increase in myopia, or upon the history of the ocular changes. Based upon these facts, important suggestions, it is true, had been made regarding the hygiene of vision; the proper relation of seats and desks, sufficient light, etc., were insisted upon as important; but further than this no practical results were reached. It was therefore desirable that this investigation should, if possible, reveal something of the real cause of the myopia. That the hygienic surroundings of the pupils were not solely at fault was rendered probable by the investigations of Just, who examined the eyes of 1229 of the pupils in the two high schools of Zittau; both of which had been erected since 1866, and in which the hygienic conditions were all that could be desired. He nevertheless did not find that the excellent arrangements had in any degree lessened the percentage of increase in myopia. It was necessary, therefore,—the fact of the increase being established,—to look beyond the mere hours of study, the proper seating and the sufficient lighting of the school-room, since the most perfect arrangements in these respects had failed to arrest the increase.

The examination of large numbers of eyes in the schools had served to demonstrate the fact that myopia was more frequent in the advanced, than in the primary classes; and thus fully justified the inference of an increase in the number of myopic eyes in the same class as it passed from the lowest to the highest grade; but such investigation could not give the pathological history of the change in form of the eyeball. This, however, was necessary in order to arrive at a perfect knowledge of the real cause and nature of myopia. This history could in fact be acquired only by patiently examining the eyes of a large number of the *same pupils* year after year, and carefully recording their condition as they passed from the primary classes into the succeeding higher grades. Now, such a task presented extraordinary difficulties, and was one, withal, liable to many disappointments; since, as we shall show, the pupils, in whose eyes the investigator would be most interested, are the very ones who—in this country, where education is not compulsory—are apt to drop out of the class, because of the pain and consequent inability to pursue their studies.

The same result, however, it was thought, might be reached approximately by a careful study, in a large number of eyes, of the refraction, and also of the attending conditions of health or disease as revealed by a careful ophthalmoscopic study of each individual.

That the myopic eye was generally also a diseased eye was a fact well understood, since it found demonstration in the daily experience of the ophthalmic surgeon. The collated statistics had shown not only a steady rise in the percentage of myopia, but a nearly proportional decrease in the number of hypermetropic eyes, while emmetropia remained nearly uniform. The question, therefore, very naturally arose as to *whence came the near-sighted eyes.* It was obvious that they were recruited from one or both of the other kinds of eyes; yet actual satisfactory observation of such change had been wanting up to a very

recent date. That such changes must and do take place was, however, inevitable, in view of the facts set forth by the statistics. Now, since myopia was attended with well-known pathological conditions, which without a doubt stood in the relation of cause, it was fair, reasoning *a priori*, to suppose that the conditions of disease which resulted in distention of the eyeball, or near-sight, would be manifested some time before the resulting distention. If this were true, a careful study of the condition of the *fundus oculi* in all states of refraction would furnish the strongest obtainable evidence of the source of the unhealthy myopic eye. That is to say, if it were shown by such examination that, next to myopia, emmetropia presented the greatest percentage of diseased eyes, and hypermetropic refraction least of all, it might with some show of reason be accepted as proof that the myopic eyes were recruited from the intermediate emmetropic eyes. Indeed, this might still be accepted as true if emmetropia and hypermetropia presented an *equal* percentage of disease. If, on the other hand, it should turn out that emmetropia was the condition of health, and that hypermetropia presented the highest percentage of disease, then the conclusion would be reached, not only that myopia was recruited from eyes with hypermetropic refraction, but further that, despite the comparatively small number of actual emmetropes, emmetropia was nevertheless the condition of normal refraction, since it was the condition of health. Furthermore, the added conclusion would be inevitable that an eye with hypermetropic refraction was a defective eye, and that there must be a relation of cause and effect between this defect of refraction and the diseased *fundus oculi;* and hence that with such defective refraction in a large percentage of the eyes themselves, even a perfect system of instruction, with perfect arrangement of seating and desks, with sufficient light, ventilation, etc., would not avail in checking the progress of myopia.

It was with these views in mind that the work of this examination was undertaken; and in order to give the statistics a true value the utmost care was exercised throughout to avoid inaccuracy.

The method of examination which should secure the most complete record possible of the various facts to be ascertained by the investigation was a subject which received most careful preliminary study; and that adopted has seemed to satisfy the necessities of the case. Each child, on entering, received a printed form with blanks for the recording of all the important features of the case. To one member of the examining committee was assigned the duty of noting, in proper order, the name, age, sex, residence, color of eyes, hair, and complexion, the condition of general health, and the condition of the eyes. Under the latter headings were recorded whether the eyes were comfortable or weak when used, the presence of blepharitis, conjunctivitis, corneal maculæ, or strabismus, and any other condition or fact bearing upon the general medical history of the case.

The pupil then carried the paper to a second examiner, who ascertained by the test type of Snellen, and recorded, the sharpness of vision of each eye separately. A third tested by means of Green's astigmatic cards at twenty feet as to the presence of astigmatism; and if lines were positively selected as seen better in one position than in any other, the fact and the position selected were noted, any uncertainty being indicated by an interrogation-point. A fourth then determined the near-point and range of accommodation of each eye separately with No. 1 of Jaeger's test types, and examined as to insufficiency of the internal rectus muscles at twelve inches. To determine this, a 9° prism was employed to give vertical diplopia, and then, if with Graefe's dot and line, or a modification of it by the substitution of a word of Jaeger No. 1 for the dot, there were distinct crossing of the images, insufficiency was noted as present. The central color perception was then tested at twenty feet by squares on the same scale as the type of Snellen, and the result recorded in the same manner as the sharpness of vision. The color sense was further tested in matching colored worsteds after the method of Holmgren, and any fallacy from ignorance of the names of the colors in the preceding test completely excluded.

With the paper upon which all these data had been recorded, the pupil then entered the dark room for the ophthalmoscopic examination, which was made by the chairman of your committee, aided by the facts previously ascertained. The refraction was determined with the ophthal-

moscope with all possible care, and any error and its apparent extent recorded. Then the *fundus oculi* was studied in detail, and any departure, physiological or pathological, from the normal accurately described, and, where permitting of representation, sketched upon the paper. So carefully was this done that, in the subsequent study of the work, a glance at the sketches was often quite sufficient to bring up vividly to mind the entire ophthalmoscopic picture and other details of the case, which the name, etc., did not in the least recall.

As it was upon this ophthalmoscopic determination of the condition of refraction that most of the subsequent work hinged, it will be proper to state that all sources of error were excluded with the most painstaking care. The sharpness of vision and the range of accommodation previously recorded were carefully borne in mind, and used as checks to guard against mistake; and if there appeared to be the slightest inconsistency between them, care was redoubled to find the source of variation. If the vision were normal, myopia was at once excluded, and every means was employed to remove any spasm of accommodation which might simulate it; and the examination prolonged until the apparent error had disappeared, often to give place to a distinct hypermetropia. In the examination emmetropia and health were always presupposed, and the contrary was recorded only when unmistakably present. The average time required and actually spent upon each case was twenty-eight minutes, and the record thus obtained was as complete and free from all sources of error as was possible from a single examination, unless a mydriatic were employed; and upon it I should not have hesitated to venture an opinion or prescribe treatment, had that been the object of the diagnosis.

The records thus obtained were arranged according to schools and classes and copied into a book ruled and printed for the purpose; the original papers being carefully filed away. The individual results having been thus gotten into readily available form, the work of classification commenced; and it may here be stated, parenthetically, that not until the latter work approached completion had your committee more than the most vague idea of the ultimate showing of the investigation. The records were taken a class at a time, and the number of pupils, the number of eyes, and the average age ascertained for the class. The eyes were then classified according to their state of refraction,—columns being arranged for emmetropia, hypermetropia, hypermetropic astigmatism, myopia, myopic astigmatism, and mixed astigmatism; the number of each contained in the class being placed under the appropriate heading, and the percentage to the whole number of eyes in the class computed. Within each column were arranged headings under which to record the number of eyes of that condition of refraction that were comfortable at work, and how many uncomfortable; the number with normal, and with lowered vision; how many had healthy eye-grounds, how many unhealthy; the number with conus, with central excavation, with anomalies of the ocular muscles; and the percentage of the whole number in the column represented by these carefully calculated. The total number of eyes in the School of Practice was then found to be 456; in the Grammar School, 859; and in the Girls' Normal School, 1107; making a grand total of 2422. The results thus obtained were arranged in tabular form in the order of classes and schools, from the lowest grade to the highest; and the totals for the schools worked out, with the percentages as before. An example will make this clearer. In class B, section 4, Girls' Normal School, there were 74 pupils, with 147 eyes, and the average age was 17½ years. Of these, 21, or 14.35 per cent., were emmetropic, 55, or 37.41 per cent., hypermetropic, etc. Of the 21 emmetropic eyes, 14, or 66.7 per cent., were comfortable at work, 7, or 33.3 per cent., uncomfortable, 20, or 95.2 per cent., had normal vision, 18, or 90 per cent., had healthy eye-grounds; and so on through the other groups.* Another table was also prepared, dealing with the refraction alone; and in its second part the matter of astigmatism, important as it is, has been ignored, in order to give results comparable to those of other investigators, who have grouped under the head of myopia all eyes with myopic refraction, and as hypermetropia those with hypermetropic refraction, with-

* The preceding details were prepared in the expectation that these tables would form part of this report, and have been allowed to stand, although no longer necessitated in the absence of the tables; which have been reluctantly withheld because of the practical difficulties in the way of their reproduction.

out regard to whether the error was simple or complicated with astigmatism.

To render more distinct and comprehensible the results thus obtained, the graphic method has been employed, and curves used to indicate the proportional rise and fall of the various conditions. A little study of the classes included under the Primary school, of 11.74 per cent. in the Secondary, of 11.14 per cent. in the Grammar, and of 12.28 per cent. in the Normal; a variation of slight amplitude, which shows that the proportion of emmetropia was practically the same in all the schools, but tends slightly upward. H., however, presents a different picture.

TABLE I.

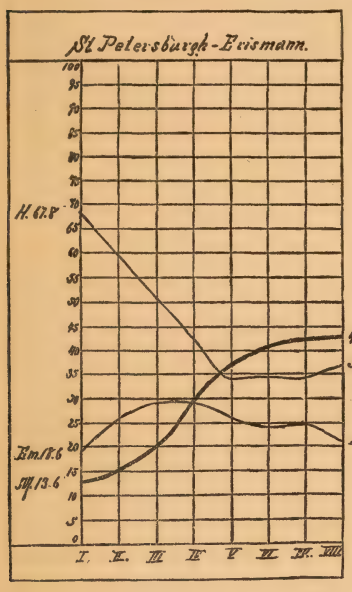


TABLE II.

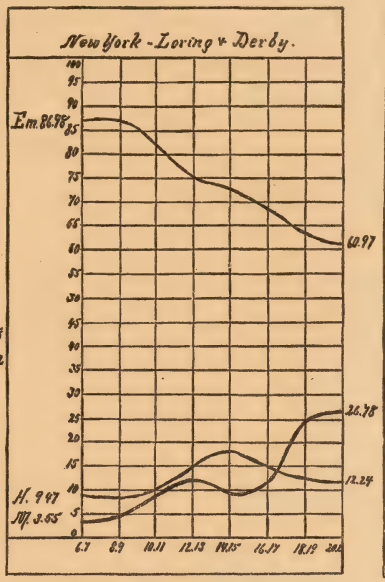
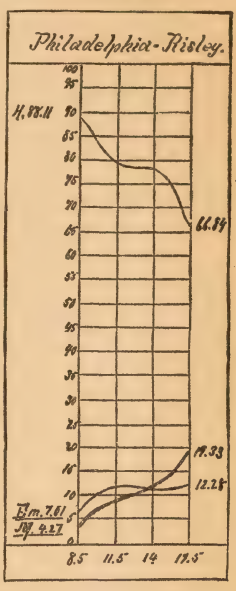


TABLE III.



the headings of the two lower schools at once convinced us that the divisions they formed were accidental. The classes were therefore rearranged according to their recognized grade, as Primary, Secondary, and Grammar, while the Normal School, as a whole, formed the fourth grade. The totals and percentages of these, with the average age of the pupils of each, were then carefully worked out, and upon them the tables of curves have been based. Thus, in Table III. the horizontal lines represent the percentages, the vertical lines which they cross, the Primary, Secondary, Grammar, and Normal Schools, in the order named; the average age of the pupils of each being given below. In this as in many other parts of the report, the abbreviations Em. for emmetropia, H. for hypermetropia, and M. for myopia, have been used; and in other tables H. As. for hypermetropic, M. As. for myopic, and Mx. As. for mixed, astigmatism.

Turning to the table, then, we see that Em. was the condition of 7.01 per cent. in Beginning with 88.11 per cent., it falls in the Secondary school to 78.92 per cent.; remaining at nearly the same level in the Grammar school, it sinks in the Normal School to 66.84 per cent., a total fall of nearly 22 per cent.

It is this fall of the hypermetropia curve, together with the nearly corresponding rise of the myopia curve, which freights this investigation with such serious meaning. Regarding the increase in myopia thus depicted, all authorities have shown, and this report will probably make still further evident, that it means at least a permanently defective vision, with its attending discomforts and disadvantages, for which our best skill can afford only palliative measures for relief. It will be noticed, then, that the myopia curve, beginning with 4.27 per cent., mounts with an almost unvarying course through 9.03 per cent. and 11.45 per cent., to reach in the highest school 19.33 per cent., an increase of full 15 per cent. That this increase of myopia is not exceptional in its extent, similar in-

vestigations are unanimous in proving. The results of two such are represented for comparison in Tables I. and II. Compared with ours, the curve drawn by Loring and Derby to represent the increase of myopia which they found in the eyes of 1133 school-children in New York City will be seen closely to agree. The smaller numbers in the divisions of classes of these gentlemen bring the higher and lower extremes into greater prominence, but leave more room for accidental variations; and their curve is distinctly less uniform. This does not, however, account for all the difference between the two showings; and even leaving out their last division, and comparing their seventh with our last, the average age in which is nearly the same, their proportion of myopia is seen to be full five per cent. higher. Another remarkable difference between the tables, and one which seems inexplicable, is that emmetropia and hypermetropia seem to have exactly changed places,—a phenomenon which has its parallel in the table of Conrad of Königsberg, but is at variance with the results of most observers. Between the curves of Erismann and ours the most distinct parallelism is evident; yet we can comfort ourselves with the observation that, injurious as our school-work is, and bad as is the outlook for the future of the eyes of our school-children, it is far better than in the Russian schools; while a comparison with the German tables would show even greater cause for congratulation. In the table of Conrad, already referred to, but not here given, the percentage of myopia in the University classes is seen to reach 62.10 per cent.;—*nearly two-thirds of the students are near-sighted.* Can we wonder that the spectacles seem almost an essential part of the physiognomy of the educated German? Nevertheless our table, like the results of all other observers, shows a nearly steady increase in the percentage of myopia during the educational process; and the evil, though not so great, is as real in America as in Europe, and its causes and the means of prevention as distinctly demand study.

But first let us gain a fuller understanding of the magnitude of the evil in its general bearings. To some persons the fact that near-sightedness is increasing may seem a matter of little moment. Objects have to be held nearer to the eyes, and a glass has to be employed to give any distinct distant vision; but, as an offset to these inconveniences, there is an idea quite prevalent that "near-sighted eyes are strong eyes," based on the fact that much later in life than other people, if at all, do myopes require the aid of a reading-glass. A study of Tables IV. and V. will by no means bear out this view. In these tables the method of representation is the same, but the eyes of hypermetropic and of myopic refraction have been further divided according as they presented the error in its simple form or as astigmatism. A column has also been placed for mixed astigmatism, although the small number of cases of this form of error of refraction leaves too much room for accidental variations for its indications to be of any great value.

In Table IV. the upper curve indicates the proportional frequency of unhealthy conditions in eyes of the different states of refraction; and it may be well here to reiterate that in this category were included only distinct departures from health. They varied from retinal irritation, with congestion of the nerve, striation of the retina, and undue redness of the entire eye-ground, to marked neuro-retinitis, choroiditis, or posterior staphyloma. The percentage of these conditions in emmetropic eyes will be seen to have been 31.97 per cent.,—a frequency which is explained in part by the fact that the eyes in the lower school were subjected to less favorable hygienic surroundings, and, further, that the other eye of the same pupil was often of a different refraction, and to it could fairly be charged the diseased condition which affected both. Only 20 per cent. of the emmetropic eyes in the Normal School presented these pathological eye-grounds; but even here the difference of refraction in the eyes of the same individual was present in a large number of cases, thus causing a higher percentage than though such difference had been eliminated. In hypermetropia the percentage passed 50 per cent.; in hypermetropic astigmatism, 76 per cent. Myopia presented disease in 82 per cent., and in myopic astigmatism 87 per cent. of the eyes were unhealthy. In the Secondary classes there was not found a single myopic eye in which the fundus was healthy; and even in the Normal School the diseased eye-grounds were present in nearly 82 per cent. of the myopic eyes. It would here be well to state that while some of the

classes in the Primary and Secondary schools had bad hygienic surroundings,—and in the Grammar schools the arrangements were not the best,—in the Normal School the greatest possible care had been given to the lighting and seating of the class-rooms, with the result of making them as nearly perfect as possible in the present state of knowledge of the requirements. Yet, in spite of this and of the fact that the pupils were much older, and therefore, as we shall show, less susceptible to unfavorable circumstances, the showing for myopic eyes was almost as bad as in the lower schools.

Turning now to a special form of disease of the eye-ground, known in its fully-developed condition as the "myopic conus," or "posterior staphyloma," and long recognized as of more or less serious pathological import, though of uncertain causation, let us trace its relation to the errors of refraction. The lower curve of Table IV. shows that this was found, often only in its incipient form, in 13.15 per cent. of the emmetropic eyes. In hypermetropia it was found in 20 per cent., and in the cases where astigmatism was combined with the hypermetropia it rose to 45 per cent. Myopia, with which many have claimed that conus was almost synonymous, presented it in but 41 per cent., distinctly less often than hypermetropic astigmatism; and only where myopia was itself complicated with astigmatism did the percentage of conus rise higher,—there, however, to reach 60 per cent. The changes in the eye-ground to which this name is here applied are almost infinite in variety and extent; but the study of the anatomical condition and its clinical history justify the statement *that it is a limited choroiditis, of varying extent and intensity, affecting the region of the nerve-entrance, and generally manifested at the temporal margin of the optic disk, as a crescent of altered color and pigment-absorption.* The massing of pigment in the ring of choroid immediately surrounding the nerve is a phenomenon more often present than absent, and is occasionally most extraordinary in extent in the eyes of young children; and while this last fact does not exclude the possibility of pathological meaning, since marked conus has been seen in infants, it still strengthens the testimony drawn from general observations that this is one of the matters which may be set down as physiological. But when the pigment about the disk begins to absorb, we can no

TABLE IV.

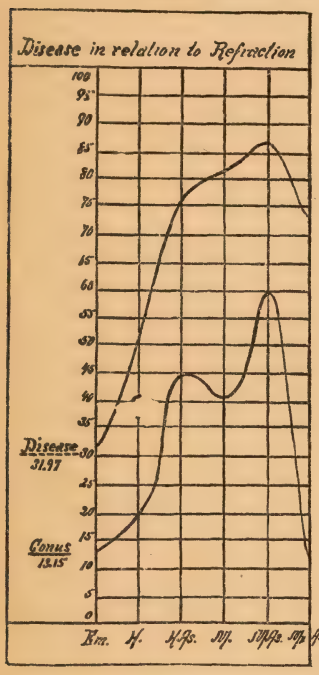


TABLE V.

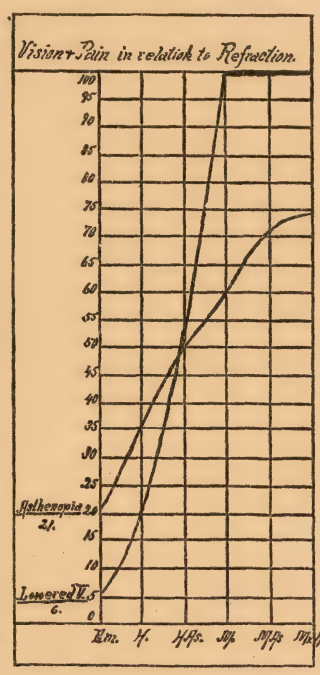
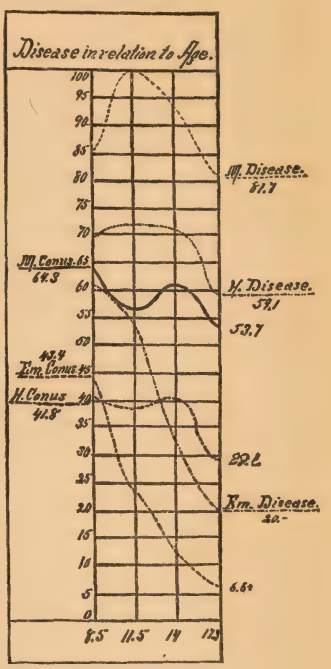


TABLE VI.



longer maintain such a view: the attending symptoms and the clinical history as derived from individuals and from classes point emphatically to diseased action with a marked and more or less permanent anatomical lesion. It is not our purpose here to enter upon the discussion of the vexed question of its causation; but we may well call attention to the emphatic pointings of the curve which shows its relation to errors of refraction, especially astigmatism.

In Table V. another important point is brought forward. One of the important facts recorded in the examination was whether the eyes of each pupil were comfortable when at work or asthenopic. In the latter category were included all the eyes which were painful after work, and also those which, though stated to be comfortable, gave distinct external evidence to the contrary,—*e.g.*, in frequent styes, blepharitis, conjunctivitis, and such affections. This latter check, which was used but sparingly, was rendered absolutely necessary by the utterly inconsistent statements of children. Experience shows that they are not prone to complain even when it is most evident that they suffer discomfort. In working up the results of the examinations, hundreds of eyes claimed to be comfortable were found with conditions making it impossible to accept the statement as true; yet the trouble was "not proven," and the eyes were recorded as comfortable. The relation of this matter of discomfort to errors of refraction needs no comment. The steady and rapid rise of the curve to 72 per cent. in myopic astigmatism is sufficient evidence of the dependence. Defective vision, as indicated by the other curve, increases with a sweep that would startle us if it were not a fact which familiarity has robbed of much of its weight. Yet it is worthy of note that there are few persons whose eyes are hypermetropic, even when a considerable degree of astigmatism is also present, who will not claim to have perfect vision. Only by an accurate test is the contrary made evident; and that, as the curve shows, only in a small percentage of the cases. The few who recognize the defect in vision almost invariably lay it to the charge of near-sight, and not infrequently seek aid from concave glasses.

Table VI. shows some points that were a genuine surprise to your committee, and, so far as we know, have never before been brought up. Here the percentages of disease in general, and of conus, are depicted in relation to age or class, and the remarks previously made regarding the hygienic surroundings of the various classes should be borne in mind, as well as the matter of the decreasing susceptibility, as age advances, to injury from such environment. Thus we see that in the Primary school the emmetropic eyes (a small number, however, in all) presented conus in 43.4 per cent., and diseased conditions in 60.8 per cent. The hypermetropic eyes had conus in 41.8 per cent. and disease in 69.5 per cent., while in 64.3 per cent. of the myopic eyes conus was present, and disease in 85.7 per cent. It is no wonder that it was with the most serious foreboding that we looked forward, when at the beginning of our work among the youngest children we found such a condition of affairs. The results obtained in the higher schools serve to lessen in some measure this impression; but it is a sad thought which arises when we look back and speculate as to the subsequent history of the individuals forming those primary classes. In the Secondary school conus had fallen to 23 per cent. and disease to 53 per cent. among the emmetropic eyes; in the hypermetropic the variation was slight, while among the myopic, though conus had declined to 56.6 per cent., disease had gone up to 100 per cent.: there was not one of them healthy. In the two upper schools diseased conditions steadily declined, except conus among the hypermetropes and myopes, which rose in the Grammar school to fall still lower in the Normal. In the Normal School, where the educational process was at or near its completion, the showing was far more favorable. Of the emmetropic eyes, only 20 per cent. were diseased, and only 6.6 per cent. of these had conus. Of the hypermetropic eyes, 59.1 per cent. were diseased, with conus in 29.6 per cent., while among the myopic eyes 81.7 per cent. were diseased, with conus in 53.7 per cent.; a showing which is an improvement, indeed, upon the preceding classes, but none the less sad for a model school. But the point exciting surprise, and perhaps forming a check to any congratulation over the preceding matter, needs to be touched upon. In Table IV. disease and conus have been shown to be most frequent among eyes of myopic refraction, and in Table III. my-

opic refraction has been demonstrated to increase as we pass from the lower to the higher schools; and yet the tendency of all the disease and conus curves is downward,—*i.e.*, upward as we pass from emmetropic, through the various defects of refraction, to myopic astigmatism, but even in eyes with these latter defects present, the curves tend downward as the age and class advance. That this should be the case among emmetropic eyes was to be expected, and even among the hypermetropic was readily explicable; but that it should be found among the myopic, lacks as yet any thoroughly satisfactory explanation. There are, however, a few circumstances which go far towards explaining this unexpected result. In the first place, the pupils in the Normal School were far more favorably situated than were those in the Grammar school. Half of the pupils in the Secondary school were in the same building and with much the same surroundings as the children in the Grammar school. The other half, however, were in the Normal School building, and they, with the Primary school, constituted the "School of Practice" of the Girls' Normal School. The arrangements in this Normal School are seemingly perfect. The quantity and direction of the light leave nothing in this respect to be desired, while the seating, placing of blackboards, and so forth, have been wisely done. The classes are not confined to any one room during the school-hours, but pass from one to another through broad and airy corridors for the successive recitations. Very little, if any, study, however, is done in the school-building, the lessons being prepared at home; a fact to be alluded to later. (The pupils of the Normal School are admitted from the various grammar schools throughout the city, the terms of admission being a certain class standing, which is the basis of promotion. Not unfrequently the pupils, when asked about the condition of their eyes, remarked that they had suffered greatly while in the grammar school, but had been more comfortable in the Normal School,—a distinct testimony to the favorable hygienic surroundings of the latter, since there was little if anything in the requirements of the course to make the difference.)

The children in the School of Practice, ranging from five and a half to twelve years of age, were, with the exception of two classes, quite as favorably placed as the pupils in the Normal School. These two classes, however, were very unfavorably situated. Owing either to the crowded condition of the building or to the necessities of classification, partitions about seven feet high, composed in part of ground glass, had been in two cases erected across a room. In the additional rooms thus secured there were no windows, sole dependence for illumination being placed upon the diffused light reflected from the walls and ceilings. At a desk in one of these rooms, on a bright clear mid-day, it was found extremely difficult to read Jaeger No. 1, in consequence of the imperfect illumination; yet in these rooms the classes occupying them not only recited but prepared many of their lessons, and this during a period of six months. The results of this arrangement on the eyes of the pupils were only too plainly revealed by the ophthalmoscopic examination. A large number of these little children were suffering from headache. They had congestion of the conjunctiva, and red and scaly lid-margins, while very many of them when asked if their eyes were troublesome replied, "They water when I study." The ophthalmoscope showed in most cases choroido-retinal irritation, and in not a few instances actual inflammation. It was here that was most frequently observed the commencement of those choroidal changes already described as occurring in the region of the optic disk. Many of the eyes were unduly sensitive to the light of the ophthalmoscopic mirror, and even during the preliminary examination would flush up and manifest their irritability by excessive lachrymation. These conditions, though worse in the two classes above referred to, were by no means confined to them. The irritable, overworked condition of a large percentage of the eyes of these young children could not but awaken the gravest apprehensions. That these classes did not show a percentage of disease very much in excess of the others is explained by the fact that many of the other classes had already occupied these same dimly-lighted rooms, having in the course of promotion passed through them. The better condition of the eyes in the secondary school furthermore suggests very forcibly the probability that many of the children with bad eyes in the primary classes had dropped out in

consequence of their eye-trouble,—a process which may be continuous through all the classes.

These facts, then, possibly furnish all the needed explanation for the downward trend of the curves in Table VI. One fact, however, has not yet been dwelt upon with the urgency its importance demands. Allusion is made to the bad condition of the eyes in the primary classes. Although the myopia curve is here at the bottom of the scale, the disease curves at eight and a half years of age are all high, even in emmetropic eyes. The lesson it is desired to impress just here is that in the eyes of these young children was being laid the foundation, in intraocular disease, for a future myopia. Protected at all other points by the watchful care of parents, they had nevertheless been subjected to the duties and cares of their early school life without a thought regarding their eyes, without the most cursory inquiry, except in rare cases, being made as to whether the eyes were fitted to perform safely their important function.

Although the limits for publication by the Society have been already exceeded, reference must be made to one other fact, since it suggests an important practical point in the architecture of school-houses. The two senior classes in the grammar school were seated in large, airy, well-lighted rooms, with every necessary appliance; but the desks were so arranged that the pupils sat facing directly three large western windows. Almost without exception these pupils were found with retinal irritation, and complaining bitterly of the source of light in the school-room. The fact that facing the light during work is a source of harm to the eye is one very generally recognized by the laity, and more than one letter found its way to the chairman of your committee, insisting upon its importance as the source of weak eyes.

There are numerous other suggestions, which should find place here did space permit, regarding the methods pursued in our public schools; but they must be reserved for more extended treatment elsewhere.

By no means, however, is the subject exhausted by the study of the eyes themselves, and by the discussion of the system of instruction in our schools. In conversation with many pupils who chanced to be suffering even beyond the average of those with bad eyes, they were free to confess that, after their lessons had been learned,—*i.e.*, those lessons they were required to prepare at their homes,—many hours, often extending far into the night, had been spent in reading. Of course the schools must not be held responsible for this evil, and a wide-spread evil it is, in this country. The ready access to public libraries, the cheap editions of works of fiction, and the great prevalence of Sunday-school libraries, etc., place a most fascinating form of literature in the reach of every one. It consequently happens that in the great majority of city homes, the younger members of the family may be seen, during the long winter evenings especially, poring, hour after hour, over a book. To add to the danger from this protracted strain upon the accommodation, the book is quite likely to be held in the lap, and the trunk and head bent forward over it; while a seat in some part of the room remote from the light is quite as liable to be chosen as a more favorable one. While these things are permitted at home, it is, of course, not just to accuse our school system. There is one of their methods, however, justly open to blame,—viz., the custom of giving tasks in the school-room which must be accomplished at home, often at the sacrifice of several hours of time which should be spent in out-of-door sports.

Among the questions of greatest interest which at the outset of this investigation presented themselves were:—

First. Would our more youthful civilization yield different results, regarding the percentage of increase in myopia, from those reached by European observers?—This was important as tending to shed light upon the possible heredity of myopia. This latter could be fully answered only by a careful study of the family history of a large number of myopes. My statistics and the records of private practice have placed this within reach, but time has not permitted its development. The question as stated has received a decisive answer.

Second. Myopia having been found to increase during school life, *did the increase come from the emmetropic eyes while they were recruited* pari passu *from the hypermetropic?* i.e., *did the eyes with hypermetropic refraction pass through emmetropia to swell the percentage of myopia?* This

involved the question as to which is to be considered the model eyeball.

Third. What relation, if any, existed between our educational process and the increasing percentage of near-sight, and to what extent were imperfections in our school-system responsible for the increase?

These questions, and many of secondary importance involved in them, have received answers in the preceding discussion, which are again summarized in the following conclusions, and are, we believe, fully justified by the preceding facts.

First. That the emmetropic eye is the model or standard eye,—since emmetropia was shown not only to remain nearly constant in percentage throughout the school life, but that it was also the condition of health, and withal enjoyed the highest acuity of vision and the greatest freedom from pain.

Second. That myopia, or near-sight, commencing in the primary classes with a low percentage (4.27 per cent.), steadily increases as the pupils pass to the highest grade in our public school system; that the percentage of increase is very much lower in the schools of Philadelphia than in the schools of Europe; that the myopic eye presents a higher percentage of disease than eyes with emmetropic or hypermetropic refraction; that even in *myopic* eyes the percentage of disease is much higher when astigmatism is also present.

Third. That hypermetropic eyes are more numerous than both myopic and emmetropic combined; that, next to myopic astigmatism, distinct lesions are most prevalent in eyes with hypermetropic astigmatism; that the increase in myopia is from eyes with already existing anomalies of refraction,—usually hypermetropic astigmatism,—since it was shown that in hypermetropic, next to myopic astigmatism, was exhibited the highest percentage of disease, which also manifested itself in pathological changes similar to, or identical with, those usually regarded as characteristic of myopia.

This conclusion is strengthened by the fact that such change has taken place under direct observation. It is by no means necessary that the distending eyeball should first pass through emmetropia. In several instances I have had the opportunity of witnessing the gradual change from hypermetropic astigmatism to myopic astigmatism, the meridian of greatest curvature being maintained. Four of these cases were published in the *American Journal of the Medical Sciences*, October, 1880. In one of these published cases a high degree of simple hypermetropic astigmatism passed through mixed to simple myopic astigmatism. Since the date of publication, the left eye has continued to distend, until at the present writing it presents compound myopic astigmatism.

Fourth. That, while there is an evident and close relation between the increase of myopia and the school life, nevertheless, having the preceding conclusions in view, *the educational methods are responsible to only a limited degree.*

This conclusion is supported by the fact so strongly demonstrated in this report, namely, the very obvious relation between the errors of refraction and the diseased conditions of the *fundus oculi*, which shows beyond dispute that the fault is not, primarily, in the system of education, however faulty this may be in many respects, but depends upon the defects which existed in the eye itself at the beginning of the school life. The conclusion, therefore, may be formulated as follows:

That, *given an emmetropic or normal eye, the probabilities are that no harm will come to it from the educational process.* On the other hand, *given an eye with an anomaly of refraction, especially astigmatism, the probabilities are, other things being equal, that the educational process will be fraught with pain and danger to the eye.*

Therefore, that before entering school the possible existence of defective vision should be excluded.

Fifth. That the probability of harm resulting from the school life diminishes with every added year of age, in all states of refraction.

This conclusion finds strong support in the condition of even the emmetropic eyes in the primary schools, as compared with those in the higher classes, as is graphically set forth in Table VI.

Therefore, that our children are placed at school at a too tender age.

Sixth. That, in view of the facts herein set forth, the great importance of proper hygienic surroundings and a wisely chosen and arranged curriculum of study is more than ever manifest.

In arranging the course of study, the principle to be kept in mind is the avoidance of protracted use of the eyes at a near point,—*e.g.*, in reading, writing, or drawing.

1630 Walnut Street, Philadelphia, July 12, 1881.

THE EFFECTS OF THE PROLONGED USE OF ALCOHOL ON THE VISCERA, NERVOUS SYSTEM, AND ORGANS OF SPECIAL SENSE.

Read before the Philadelphia County Medical Society, May 18, 1881,

BY WILLIAM PEPPER, M.D., LL.D.,

Professor of Clinical Medicine in the University of Pennsylvania.

I SHALL limit myself, in the informal and practical remarks I wish to make this evening, to the effects of the prolonged use of alcohol in ordinary and moderate quantities, and shall not dwell on the effects of its habitual intemperate use. As to the latter, there can be no doubt as to the long list of grave lesions produced, involving the nervous centres, the serous and mucous membranes, the glandular organs, etc. Those who indulge in such abuse of alcohol are often of the lower classes, and are much exposed to the effects of other injurious influences, and of reckless habits of living. They often get syphilis; and it is a matter for careful consideration in each case how far the lesions are the result of the alcohol, and how far they may be due to other causes. Passing from these graver lesions, I will try to state in a brief and practical way the results of my own clinical observation as to the effects of the prolonged use of alcohol in moderate quantities. It seems to me, in the first place, that we must admit that there is a certain amount of alcohol that can be used daily by a healthy individual as a part of his regular diet, and which will be thoroughly appropriated and consumed in the chemical changes incident to nutrition. But, while I am in no sense an advocate of total abstinence, I must state that the more closely I watch the effects of the regular moderate use of alcohol, the more convinced do I become that the above physiological quantity, as it may be called, is a very small one, and, further, that it requires to be taken with certain definite regard as to time, quality, and degree of dilution. I do not take into account the exceptional individuals who are able to consume with apparent impunity a considerable daily ration of alcohol; but I am sure I speak for all ordinary persons when I accept the daily limit of from one to two ounces of alcohol, as laid down by Parkes and other writers. This means two or three ounces of whisky or brandy; six to ten ounces of wine, according to the kind and strength; and twelve to sixteen ounces of beer. I do not know of any accurate estimation of the amount of alcohol in the beverages sold ordinarily in our large cities, but my suspicion is that they contain an undue proportion of alcohol. Certainly the above quantities represent what I have been led to regard as the full physiological limit for the vast majority of persons. Again, it is essential that this alcohol be taken very freely diluted. My belief is that, to avoid undue stimulation of the gastric mucous membrane, the beverage should not contain more than six or ten per cent. of alcohol. Further, I am of the opinion that alcohol should be taken only at meal-times, so that even in this dilute form it shall not come in contact with the exposed mucous membrane. It seems to me, then, that we may concede that most persons may take with impunity two or three tablespoonfuls of whisky in a tumblerful of water, or four or five ounces of light sherry diluted with an equal amount of water, or eight or ten ounces of claret, daily, with the principal meal. I do not believe such use of alcohol will, in healthy subjects, cause any injurious effects on the viscera, nervous system, or organs of special sense.

It is of course understood that at the same time an ordinary amount of food and drink is consumed; but it should be remembered that with many persons a most fruitful cause of dyspepsia is the use of too much liquid at meal-times. If the alcohol be taken sufficiently diluted, it results either that a very small amount is taken or that more liquid is used than is wholesome. I have very often had occasion to observe that the regular use of more than a minimum amount of alcohol gradually led in this way to the development of a troublesome form of indigestion, with secondary derangements of nutrition. Still more is this the case if alcohol be taken in a more concentrated form, or on an empty stomach between meals. There is then a distinct tendency to the production of subacute gastritic dyspepsia, not infrequently associated with duodeno-hepatic catarrh. The degree of susceptibility varies so greatly in different individuals that the tendency to these mucous catarrhs should never be lost sight of. They are not trivial, either in the symptoms produced or in the organic lesions to which they may ultimately lead.

We are all familiar with the reflex disturbances of the action of the heart and of the cerebral circulation, and with the faulty digestion and impaired assimilation that sap the vigor of the system. Such irritation, slight though it be, will, in susceptible subjects, if allowed to continue, set up very slow changes in the gastric follicles, in the submucous connective tissue, in the sheaths of the nervous filaments, together with slight catarrhal changes of the mucous membrane of the intestine and biliary ducts. This, then, constitutes one of the chief dangers that I am in the habit of meeting with from the regular use of alcohol; and in persons whose mucous membranes are thus sensitive (and in this country at least their number is very great), alcohol should either be avoided altogether or taken absolutely and exclusively in the very small amounts I have indicated, very freely diluted, and only at meal-times.

Closely associated with the above danger is the tendency of alcohol to develop any latent gouty diathesis. I have long been convinced of the existence of a vast amount of suppressed, irregular, undeveloped, or latent gout in our American communities. It expresses itself by functional derangements, by a difficulty or inability to appropriate and thoroughly work up a proper amount of certain nutritive materials, and by a tendency to certain slow and obstinate tissue-degenerations. Sometimes nitrogenous substances are badly accepted; in other cases the starches or fats disagree most; but in nearly all alcohol is badly borne. It is very easy in such persons to call into action the morbid processes that are favored by the existence of this diathesis. If alcohol be taken by them in any considerable amount (though far within the limits of its intemperate use), or in such a manner as to interfere with digestion, or if in addition to the alcohol—which has a certain value as a quasi-nutrient—a full amount of food be taken without corresponding increase in muscular and mental exertion, the equilibrium is disturbed, imperfect assimilation and defective elimination result, and plethora, congestive states of the nervous centres and of the great glands, with subsequent organic tissue-changes of gouty character, ensue. These effects may require many years for their development if the departure from normal nutrition and the degree of activity of the gouty diathesis are slight. But I meet with too many patients in whom nervous symptoms, circulatory disturbances, or derangements of the functions of the liver, kidneys, or alimentary canal are traceable to a gouty diathesis called into activity by the prolonged use of moderate amounts of alcohol, not to feel forced to call attention to this as one of its prominent dangers. I would not be understood, of course, as implying that the very small daily amount of alcohol which I can feel warranted by clinical experience in regarding as physiological or proper does very often lead directly to such serious results. But it may do so in those who have undue irritability of the gastric mucous membrane, or a strong gouty diathesis. And, in general, I am trying to look at the matter from the stand-point of such hygienic regimen as tends to the maintenance of absolute health, the gradual extinction of inherited morbid tendencies, and the attainment of the greatest longevity, rather than from that of demonstrable serious injury directly traceable to the action of a single agent.

SYMPTOMS AND TREATMENT OF ALCOHOLISM.

Read before the Philadelphia County Medical Society, May 18, 1881,

BY JAS. H. HUTCHINSON, M.D.,

One of the Attending Physicans to the Pennsylvania Hospital.

THE consideration of that portion of the general subject of alcohol in its medical relations which has been allotted to me—viz., "The Symptoms and Treatment of Alcoholic Poisoning, Acute and Chronic"—opens up so extensive a field for discussion that it would be scarcely possible to traverse it satisfactorily, even if a whole evening had been assigned to me for that purpose. Within the brief limits to which it is necessary to confine myself, it will be possible to take a general view of it only.

The symptoms of alcoholic poisoning will vary, of course, with the amount and kind of liquor consumed, the length of time during which its excessive use has been continued, and the age and temperament of the patient. It will be convenient, therefore, to consider them under the following heads:

a. Drunkenness.

b. Acute poisoning by (large quantities of) alcohol.

c. Mania a potu.
d. Delirium tremens.
e. Chronic alcoholism (proper).
f. Dipsomania.

It would scarcely be necessary, even to an unprofessional audience, to enter upon a full description of the symptoms ordinarily presented in drunkenness. The bloated face and reeling gait of the drunkard are, unfortunately, too often seen on our thoroughfares to make any such description necessary. Moreover, drunkenness, as such, rarely comes under the notice of the physician, except in those cases where it presents points of resemblance to apoplexy. The differential diagnosis between these two conditions is sometimes difficult. Flint says the former may generally be distinguished from the latter by the odor of the breath and vomit, by the absence of stertorous respiration, by the character of the pulse, which is usually feeble and soft and increased in frequency,—not diminished in frequency and hard, as is usual in apoplexy, —by dilatation of the pupils, and, generally, by the possibility of rousing the patient sufficiently to exhibit some of the manifestations of drunkenness in the manner of speaking. But these symptoms, while reliable in many cases, will mislead in others. For the respiration is occasionally stertorous and the pupils are sometimes contracted in drunkenness, and the odor of the breath and vomit shows simply that the patient has been drinking, not that his condition is wholly due to alcohol. In proof of this assertion it is sufficient to refer to a case recorded by Hughlings Jackson, in which the alcohol impregnated not only the breath, but the urine also, and in which the patient was left to "sleep it off." He died, however, and at the autopsy a clot was found covering the whole of one hemisphere.*

In acute poisoning by alcohol, when the amount taken is very large, the preliminary stage of excitement seen in ordinary drunkenness is wholly wanting, and the patient drops down instantly insensible, as in a case reported by Dr. Golding Bird,† in which a man drank eight ounces of alcohol. The principal symptoms are profound coma, general anæsthesia, coldness of the surface, which is often covered with a profuse sweat, often cyanosis of the face, stertorous respiration, feebleness and generally excessive frequency of the pulse, and dilatation of the pupils, which are insensible to the light. Occasionally, even in cases which eventually recover, the pulse cannot be felt at all, and this pulselessness may continue for some time. Sometimes the effects produced resemble those of an irritant poison. Thus, the mucous membrane of the mouth and throat may show a whitish discoloration, as in poisoning by acids, and there may be vomiting of blood and the passage of thin, slimy, or bloody stools.‡ In other cases convulsions may precede insensibility, or alternate with periods of delirium for some time before the supervention of coma.

In regard to the condition of the pupils in the coma produced by an excessive dose of alcohol, some difference of opinion exists among authors. Dr. Ogston, who examined twenty-six cases with reference to this point, found that they were dilated in twenty and contracted in six. It is probable that the first effect of alcohol is to contract the pupils, and the secondary to dilate them. Thus, in animals narcotized by alcohol, in whom the pupils were dilated, a fresh dose always caused their temporary contraction. They are almost always dilated in cases in which stertorous respiration is present, and therefore dilatation indicates greater danger to the patient than contraction.§

In cases where the quantity taken is not so large, the symptoms are, of course, not so serious, and may consist of headache, weakness, sleepiness with inability to sleep, diplopia, restlessness, and the like.

The coma in the severe forms may last for several days, and the patient gradually sink, or death may take place within a few hours; or, on the other hand, the patient may by degrees regain his consciousness and finally recover, or else pass into a condition resembling that of ordinary delirium tremens. The prognosis, however, should be guarded in these cases, as a period of seeming health occasionally intervenes between the symptoms above detailed and death. It may be added that diabetes is produced in animals by excessive doses of alcohol.

In proposing to give the name mania a potu to a condition which differs essentially from delirium tremens, I am, of course,

* Quoted by Dr. H. C. Wood in "A Treatise on Therapeutics," Philadelphia, 1874.
† Lancet, October, 1839. p. 166.
‡ Boehm, Ziemssen's Cyclopædia, vol. xvii.
§ Woodman and Tidy, London, 1877.

aware that I place myself at variance with many excellent observers who hold that the two terms are synonymous. But it is convenient to have a name for those outbreaks of maniacal fury which are occasionally caused by excesses in alcohol, and the symptoms of which present a closer resemblance in the main to those of insanity than to those of delirium tremens. These attacks of insanity most commonly occur in drinkers with hereditary predisposition to mental disease, but are by no means confined to them. I have myself known of cases in which no such tendency could be made out. The quantity of alcohol necessary to produce the mania varies considerably with the individual, and in some persons is exceedingly small. In a few instances which have come under my observation a single glass of whisky has been sufficient to produce it, but it has then been of very short duration, while, when it is the result of long-continued excesses, its duration is much more prolonged. In the latter case the patient may have similar delusions to those presented in delirium tremens, but he is usually more violent in his manner, and does not generally show the same degree of cowardice and timidity.

It seems to me important to recognize this form of insanity, and its cause, as it demands a special treatment, under which it generally leads to recovery.

Only a few years ago delirium tremens was universally regarded as the result of the abrupt withdrawal of stimulus after it had been used for some time to excess. But, while the influence of this cause in the production of the disease in a large number of cases is still maintained by many observers of the highest authority, there are others, and it is probable that they are in the majority, who hold that it is always an effect of the direct action of alcohol upon the brain. After a careful consideration of much that has been written upon the subject, I find myself compelled to adhere to the opinion which I have formed from my own observation, that delirium tremens may arise from either of these two causes, and that the symptoms are slightly different in the two cases. That delirium tremens may sometimes occur as the consequence of the sudden cessation of the use of alcohol is frequently witnessed in the surgical wards of any general hospital. I have repeatedly seen, for instance, in the cells of the Pennsylvania Hospital, men suffering from the disease whose previous health had been good, but whose habits of free stimulation had been interrupted by the accident for which they had been admitted, and which in many cases was of so trivial a character that it would be unreasonable to attribute to shock any share in the production of their delirium, and I have seen others, presenting at first the same symptoms, in whom the outbreak of the disease was prevented by the administration of a moderate amount of whisky. The same thing may be observed in the medical wards, although not so frequently. During my last term of service at the hospital, three patients addicted to the excessive use of alcohol were admitted with erysipelas of moderate severity. They were all allowed a small quantity of whisky, much less than they had been accustomed to consume when in health, and much less than was given to some other patients who were suffering from the same disease in a much more severe form, but who were temperate in their habits. In all of these cases, as soon as convalescence was established, delirium tremens occurred.

Delirium tremens in its mildest form is popularly known as "the horrors." Its most characteristic symptoms then are tremor, restlessness, sleeplessness, and a disturbed, anxious expression of the countenance. This tremor, Anstie says, first begins in the legs, but usually escapes notice, because more difficult to detect there than in other parts. It is readily seen in the trembling of the tongue when protruded, and of the hands when extended. In this stage it is generally controllable by a strong effort of the will, and is usually worse in the morning. It is relieved temporarily by food or alcohol. With these symptoms there is also a feeble and frequent pulse, contraction of the pupils, an inability to concentrate the mind upon any subject, and depression of spirits. The patient becomes vacillating, suspicious, quarrelsome, and cowardly. If the attack has followed a recent debauch, there are evidences of gastric disturbance in the presence of furred tongue, thirst, anorexia, etc. Occasionally certain cerebral symptoms present themselves, such as buzzing, whistling, or roaring sounds in the ears. Muscæ volitantes and flashes of light occur just as the patient is dropping off to sleep. Sleep, when it comes, is disturbed by frightful dreams. According to Magnan,

the sense of the perception of colors is less acute in this condition.

The condition above described frequently ends in recovery, especially if properly treated, but in many cases glides imperceptibly into what may be described as the second stage of delirium tremens.

Second Stage.—All the symptoms of the first stage are exaggerated in this, and new ones are added. Among the most characteristic of these are hallucinations, which occur, at first, during the night only, and may often be dispelled if the patient can be amused. They are almost invariably of a disagreeable character, and when not positively painful suggest painful ideas, as in a case referred to by Magnan, in which the patient spoke of cascades which he heard roaring, and of chalets which he saw filled with people dancing and singing; but the cascades impelled him, he said, to drown himself, and the gay occupants of the chalets wished to assassinate him. The delusions generally have some relation with the occupation of the individual, or with the dominant subject of interest of the moment. Sometimes the scene of the last debauch is rehearsed, or a quarrel which took place there is renewed in imagination.*

The hallucinations of the sense of sight are most frequent. The patient sees about him devils, snakes, rats, mice, and vermin of all kinds, from which he vainly attempts to escape. Those of the sense of hearing come next in frequency. In addition to the noises mentioned as occurring in the first stage, the sufferer hears the sounds of funeral bells, and of singing and other music, generally of a mournful character. Cries and tumultuous voices torture him, even though he closes his ears against them. Perversions of the senses of smell and taste, although less frequent than those of sight and hearing, nevertheless occur, and contribute their quota towards the distress of the patient, who may be harrowed by disagreeable smells, or believe that his food is tainted, or that it contains some poisonous substance. The general sensibility also usually presents some evidence of derangement. The most common perversion of sensibility is the feeling of ants or other insects crawling over the body or under the skin, and the efforts which the patient makes to detach them are often sufficiently ludicrous. At other times he believes himself to be enclosed in a net, and spends his time in fruitless efforts to disengage himself from it. The timidity, anxiety, and fear of the first stage are intensified in this, the patient believing himself to be pursued by policemen, or by enemies who desire to take his life. In his attempts to escape from his imaginary foes he may commit acts of violence which he believes are necessary to protect his own life. In some instances, however, without having any such delusion, he is disposed to fight those around him, and to be mischievous and destructive.

Tremor, it is said, may occasionally be wanting, but it is then replaced by great restlessness. When it affects only a few muscles it does not indicate nearly so much danger, even when intense, as when all the muscles of the body are involved, especially if the tremor persists during sleep and is accompanied by subsultus tendinum, no matter how little marked it may be.† The fact that the skin is generally bathed in a clammy sweat, and feels cool to the hand, has given rise to the impression that the disease is rarely attended with fever; but this has been shown to be an error by Magnan, who has described a febrile form of the disease, and who says that in this form the temperature may rise as high as 105.8° F. Bristowe also refers to cases in which the temperature rose to 109° F. A temperature above 105° F., especially if it has risen suddenly to this point, indicates great danger to the patient. The pulse is frequent and feeble, often running as high as 140. It is dicrotic, and sometimes small and thready, sometimes soft and voluminous. The pupils are sometimes contracted and sometimes dilated, but are rarely, according to Gerhard, much contracted, except in the cases treated by large doses of opium. There is always complete anorexia, and very often there are other symptoms of a disordered digestion, such as vomiting and constipation or diarrhœa. The tongue may be covered with a thick whitish coating, or be brown, dry, and fissured, or clean, red, and glazed. The patient is constantly talking, but his utterance is usually thick and indistinct. Convulsions occasionally occur, and may leave behind them paralysis of some form, or the patient may pass from them into fatal coma. Sleep rarely comes

* Magnan.

† Ibid.

to the sufferer, and when it does occur it is not always followed, as is popularly supposed, by recovery.

This disease is in some cases difficult to distinguish from meningitis. Flint thinks a diagnosis may be generally made by attention to the following symptoms: the increase of the phosphates in the urine in meningitis and their diminution in delirium tremens, and the presence of intense headache and intolerance of light in the former. It must be remembered, however, that meningitis may be caused by excesses in alcohol, and sometimes occurs in the course of an attack of delirium tremens.

In the third and final stage the symptoms increase in severity, one hallucination succeeds another with great rapidity, muttering delirium comes on, the sweating becomes colliquative and the depression extreme, until the patient sinks into a comatose condition, which usually terminates in death.

Chronic Alcoholism.—The effects of the long-continued use of alcohol other than those just referred to are shown not less in the mental and moral debasement of the individual than in the deterioration of his physical health. The faculties of his mind are impaired just in proportion as he gives himself over to his indulgence, and this impairment shows itself especially in the weakening of memory and of judgment and in a diminution of quickness of comprehension and of power of concentration. He grows in many cases untruthful and cunning, or cowardly and apathetic, ceasing to care or to provide for his family. He is liable to suffer from depression of spirits, and may have suicidal tendencies. In this unhappy frame of mind he is unable to resist the temptation to renew his excesses, as he finds in them a temporary relief from his feeling of utter wretchedness. The appearance of the common sot is also characteristic: his face wears a dull, heavy expression, his eyes are congested and watery, and his muscles soft and flabby. Occasionally he sinks into a condition of positive dementia, from which it may be difficult or impossible to rouse him, or he may become the victim of general paralysis.

With the above symptoms there are also abundant evidences of physical derangement. Not to take up the time of the Society in detailing the various symptoms which arise from the fibrotic degeneration of the liver and kidneys, or from chronic catarrh of the stomach, the patient may suffer from constant tremor, feebleness, and shooting pains in the limbs, from pricking sensations of the skin, from numbness or tingling, from anæsthesia or hyperæsthesia, and from abnormal sensations of heat and cold.

I have included *Dipsomania* among the effects of the excessive use of alcohol, because the uncontrollable appetite which it indicates is unquestionably often the consequence of previous excesses; but it is not necessary to consider it fully in this paper, as the symptoms it presents are very much the same as those just detailed as occurring in chronic alcoholism.

Treatment.—In acute poisoning by large doses of alcohol the principal indication is at once to empty the stomach. This may often be accomplished by the administration of emetics, but in many cases it will be necessary to resort to the stomach-pump. If these means fail in restoring the patient to consciousness, recourse should be had to the usual mechanical methods for arousing a narcotized patient, such as alternate douches of hot and cold water, electricity, and counter-irritants.

It will be convenient for the sake of brevity to discuss the treatment of mania a potu and delirium tremens under one head.

In considering this question the advisability of withholding or giving alcoholic stimulus at once arises. A few years ago it was always given; now it is rarely allowed, and it is probable that it is not often, if ever, necessary. It may occasionally be administered with advantage when there is alarming prostration, but under other circumstances it is calculated to do harm. I am therefore decidedly disposed to agree with those who withhold it entirely, rather than with those who prescribe it indiscriminately. Opium is a drug which should also be given only when the indications for its use are strongly presented. When given in large doses, as it was in former years, in the hope of producing sleep, it was often the cause of coma or convulsions.

If the attack has come on shortly after a debauch, an emetic may sometimes be of service, but its tendency to depress should be remembered, and it should therefore be given to young and robust patients

only. Under similar circumstances, if there is much evidence of gastric derangement, I have sometimes found a mild mercurial purge of service. More important than the medicinal treatment of the disease is the administration of food to the patient in proper amount and of proper kind. Attacks may be often arrested by this means alone. I shall therefore consider it first. My friend Dr. Robert P. Harris, whose long experience in the treatment of alcoholism at the Franklin Reformatory Home gives great weight to his opinion, tells me that it is an essential part of his treatment, and that he has often given as much as two quarts of milk and the essence of five pounds of beef daily in the incipient stage of delirium tremens, with the effect of preventing its further development. These quantities are, of course, larger than is often necessary, and, indeed, larger than will usually be borne. Milk is to be preferred to all other forms of nutriment, and will be generally retained if given in combination with lime-water. If the stomach rejects it, however, as it will sometimes do, beef-tea will be found to be the best substitute. When this is also vomited, it will be necessary to have recourse to nutrient enemata. To relieve his thirst the patient may be allowed to suck small pieces of ice, or to take moderate draughts of water, since large draughts are very apt to provoke vomiting and retching. Frequently the aërated waters are very acceptable to the stomach.

At the Pennsylvania Hospital we are accustomed to give our patients the bromide of potassium in doses of gr. xx–xxx every two or three hours, with a dose of chloral gr. xx, repeated, if necessary, at night, and rarely any other medicines. Occasionally a hypodermic injection of morphia is administered; but this does not form an essential part of the treatment. During convalescence a tonic is given,—sometimes quinine, and sometimes one of the tonic tinctures; but the former is preferable. Dr. Harris uses the bromide of sodium instead of the bromide of potassium, and does not prescribe chloral, but otherwise his treatment is essentially the same as ours.

Other drugs which have been given in the treatment of delirium tremens are digitalis, valerian, assafœtida, Hoffmann's anodyne, camphor, and chloroform by inhalation. The latter is a dangerous remedy, and of the other remedies digitalis alone merits serious consideration. While I should myself hesitate to give it in the large quantities recently recommended, I have seen it do good in moderate doses, not only in the condition pointed out by Fothergill and others, *i.e.*, when the pulse is compressible, rapid, and fluttering,—in fact, when there is evidence of cardiac distention, accompanied by great nervous prostration,—but also when the symptoms indicate the presence of serous effusion in the arachnoid cavity.

Some authors advise that the patient should not be confined in a cell in the early stage of the disease, but should be allowed cheerful society; and others recommend exercise as a means of retarding the development of the disease. But I should hesitate before putting into practice this advice, since rest and quiet have always seemed to me important elements in its treatment, and I have known at least one patient die from heart-clot which was evidently due to the persistent efforts of the patient's friends to make him "*walk off*" an attack. In regard to the use of mechanical means of restraint the same difference of opinion seems to exist between English and American physicians as obtains in the management of insanity. Even if it were possible to place implicit reliance upon the temper and self-control of an attendant, the plan of confining a patient in bed by means of anklets and gloves, with the addition, in very violent cases, of a strap across the chest, possesses so many advantages as a means of restraint over any other plan that I do not see how any one can hesitate in giving it the preference.

I have had a table carefully drawn up by my clinical assistant, Dr. Joseph M. Fox, which shows the results of treatment in this disease at the Pennsylvania Hospital during the twenty-three years which have elapsed since I first became connected with it. During the greater part of this time it was usual to treat the disease with large quantities of stimulus, and with more or less opium. Exactly when the change to our present plan of treatment took place I am not able to say, but it was made some time during the last ten years. It will therefore not be unfair to compare the results of treatment obtained during this period of time with those obtained during

the previous thirteen years. From the year 1858 to the year 1870 inclusive, 907 cases of alcoholism of varying severity were admitted to the hospital, and of these 73 ended in death, or about 8 per cent. Since 1870, 577 cases have been received, and of this number 14 have terminated fatally, or about 2.4 per cent. I find also that the average duration of treatment in the cases in which recovery took place has also undergone a notable diminution: thus, in the first period of time it was 7½ days; in the second, only 5½. On the other hand, the duration of the fatal cases was shorter during the second period of time than during the first. In fact, in many of them death occurred so soon after admission that the patient may fairly be assumed to have been beyond the reach of remedies when admitted.

These figures speak so loudly in approval of our present plan of treatment that comment upon them is unnecessary. Under the whisky treatment, too, it was not uncommon for a patient to become violent after his admission, even if he had not previously been so. Under the present plan this rarely happens.

The treatment of chronic alcoholism may be disposed of in a few words. It consists principally in the withdrawal of all stimulus and the substitution for it of tonics, such as quinine, cod-liver oil, and iron, and in the administration of nutritious food in a concentrated form. Of course, indications furnished by the various diseases which alcohol engenders should be met by the appropriate remedy. Dr. Marcet speaks highly of the oxide of zinc as a remedy in this condition, claiming for it not only the power of relieving present symptoms, but also that of preventing outbreaks of delirium tremens. I have no experience with it in the treatment of this condition, and will therefore only quote what Golding Bird has said of it. "It has," he says, "a specific influence on the nervous system in about the same manner as iron on the blood, especially in those cases which are unattended by any organic disease." The bromides may also be of service here; but their tendency to produce derangement of the digestive tract and anæmia, when long continued, should always be borne in mind. Other remedies which may occasionally be given with advantage are strychnine, camphor, and sumbul root.

	Whole number treated.	Died.	Cured.	Relieved.	Eloped.	Discharged by request.	Average number of days in hospital of cases cured.	Average number of days in hospital of fatal cases.	Proportion of fatal cases.	Percentage of deaths.
1858	32	4	26	0	2	0	10.8	3.	1 in 8	12½
1859	55	8	45	0	0	2	7.7	2.8	1 in 7	14½
1860	105	3	93	3	1	5	7.8	2.5	1 in 35	3
1861	66	2	57	3	3	1	5.9	4.	1 in 33	3
1862	72	8	52	4	1	7	6.8	2.	1 in 9	11
1863	69	2	60	3	0	4	7.4	4.	1 in 34½	3
1864	80	4	69	4	0	3	6 6	3.7	1 in 20	5
1865	62	7	51	0	1	3	7.5	3.1	1 in 9	11
1866	66	8	53	2	0	3	8.2	2.8	1 in 8	12
1867	71	7	61	2	0	1	8.	1.8	1 in 10	10
1868	81	10	61	0	3	7	7.2	2.2	1 in 8	12
1869	80	4	67	3	2	4	5.8	3.3	1 in 20	5
1870	68	6	49	3	1	9	8.4	2.3	1 in 11	9
1871	65	2	58	3	1	1	6.3	1.5	1 in 32½	3
1872	78	1	70	1	1	5	5.7	4.	1 in 78	1¼
1873	45	0	34	6	3	2	4.7	0.	0 in 45	0
1874	69	1	61	2	4	1	5.8	1.	1 in 69	1½
1875	56	2	48	1	1	4	6.1	1.	1 in 28	3½
1876	81	2	62	6	3	8	4.6	2.	1 in 40½	2½
1877	65	1	56	1	4	3	4.3	1.	1 in 65	1½
1878	56	0	53	0	1	2	5.1	0.	0 in 56	0
1879	25	2	22	0	0	1	7.	7.5	1 in 12½	8
1880	37	3	31	1	2	0	6.	5.	1 in 12⅓	8

ARE THE ADDUCTOR FIBRES OF THE INFERIOR LARYNGEAL NERVE MORE APT THAN THE ABDUCTOR FIBRES TO RECOVER FROM DISEASE OR INJURY INVOLVING THE ROOTS OR TRUNKS OF THE MOTOR NERVES OF THE LARYNX?

BY LOUIS ELSBERG, M.D.,

Professor of Laryngology and Diseases of the Throat in the Medical Department of the University of New York, Lecturer in Dartmouth Medical College, etc.

THE leading article of the July issue of the *Archives of Laryngology* is entitled "Clinical remarks on the proclivity of the abductor fibres of the recurrent laryngeal nerve to become affected sooner than the adductor fibres, or even exclusively, in cases of undoubted central or peripheral injury or disease of the roots or trunks of the pneumogastric, spinal accessory, or recurrent nerves. By Felix Semon, M.D., M.R.C.P. London." I have had occasion to read that essay very carefully, and can from my own clinical observations bear ample testimony to the correctness of the positions taken. The very curious and important fact, ably discussed by Dr. Semon, though not new or entirely unrecognized, is now more prominently than it has hitherto been pressed upon the attention of laryngologists. A rare "companion" fact, the publication of which is particu-

larly timely in view of the discussion to take place at the coming International Congress, is embodied in the question which heads this communication. I answer the question in the affirmative. So far as I know, it has not before been alluded to.

A case illustrating the point is the following. C. B. C., when 15 years old, belonged to a base-ball club at school, in which he took much interest. In May, 1879, while practising for a match game, on throwing a ball with all his strength, he suddenly felt a sharp pain in the region of the thyroid cartilage. During some days thereafter, he also noticed, in playing hard, a sensation like an electric shock down the left arm. Twelve days after the first sensation the match game came off, and while he was excited, hot, and thirsty he took large quantities of iced water and ice-cream, which shocked him considerably. Soon after he got violent hiccough, and became unable to swallow and to speak. Nevertheless, he managed for nine days to get some food, entirely liquid, down by a swallow or two at a time. Then feeding with the stomach-tube had to begin, which was continued for three weeks. His left extremities, especially the arm and hand, had become weak, and he was deaf in the left ear. Gradually he improved; but just as deglutition and phonation became better, inspiration gradually became worse, so that after several dyspnœic spasms (one in July and one in August) his breathing six months later (loud, stridulous, and only six or seven times per minute, February 1, 1880) necessitated tracheotomy. Many very interesting features of this case (such as that from the first the sensibility of the larynx and pharynx was greatly diminished, and that gradually hyperæsthesia involved the left, first upper and then lower, extremity, etc., etc.) I pass over, as the case will be published hereafter in detail. He was seen by many physicians, but the gentleman who mainly had and still has him under exclusive care is Dr. W. E. Ford, of Utica. Dr. Hutchings, of Utica, performed the tracheotomy.

In this case there was at one time, on account of complete paralysis of both the inferior and superior laryngeal nerves, so-called "cadaveric position" of the vocal band. It may be worth while to say that this designation is sometimes used incorrectly. Very strictly, of course, it can never be applied in the living subject; and even in the case of paralysis of the recurrent nerves—to describe which condition on account of graphicness and brevity Ziemssen introduced it—we must not quite lose sight of innervation by the superior laryngeal; but in paralytic conditions of the adductors, with perhaps sluggishness of abduction, as in hysterical aphonia, in which I have known it to be used, it is entirely incorrect. In every case in which the vocal bands cannot be brought into proper apposition, there is, in phonation, straining, coughing, etc., unavoidable *leakage* of air, a term I have long used technically in accounting for the imperfect manner in which these processes are performed.

In the case of young C. B. C., gradually the integrity of the two laryngeal nerves became to a considerable extent re-established; but the adductor muscles regained power so much more rapidly than their antagonists that at one time there was almost complete "phonatory position" of the vocal band, exactly as though the abductor alone had been paralyzed. Unfortunately, events happened which interfered with continued recovery. During relapse or increased paretic condition of all the nerves affected, the abnormal intralaryngeal equipoise was re-established, and an approach to the "cadaveric position" of the vocal band was again brought about; while since then, with renewed improvement of all the other symptoms, the position which the vocal band has assumed is again nearer the median line. The clearness of the latter demonstration of the affirmative of the question heading this communication was surprising to me.

Cases in which recovery after complete paralysis of the laryngeal muscles can be observed are very rare, but they do occur. It has been my good fortune to have seen certainly three, perhaps four, cases more or less in point; and in all the cases there occurred, with whatever obvious progress towards convalescence there was, for the time being, an increasing inspiratory dyspnœa from more or less "phonatory position" of the vocal bands, showing continuing inaction of the abductors or preponderating action of the adductors. In no case during the course of recovery has isolated or preponderating restoration of abduction taken place before the restoration of adduction.

I cannot but believe that similar cases must have occurred in the experience of

other observers, although the question involved may not have specially struck them. I have not carefully enough examined into the literature to state that no such cases have been reported. For instance, in a case to which Mackenzie* refers, there seems to have been a partial recovery illustrating the point. It was the case, reported by Dr. Hughlings Jackson,† of a man who, with the symptoms of nervous lesion and paralysis of a vocal band, had lost his voice, but could breathe. He appears to have improved, and Mackenzie reports in a foot-note that he has more lately found that, whilst some power has been recovered in the adductor, the right abductor has become paralyzed. Owing to this condition, the patient now suffers from slight though constant stridor.

I shall not attempt here to discuss the cause, or the physiological and other relations involved. I only desire to state the fact, and to elicit the publication of cases observed by others.

TRANSLATIONS.

NATURE AND PATHOGENESIS OF THE VISCERAL LESIONS WHICH FOLLOW PROGRESSIVE ENDARTERITIS OBLITERANS (DYSTROPHIC SCLEROSIS).—Dr. H. Martin (*Revue de Médecine*, 1881, No. 5, p. 391), at the conclusion of a long and exhaustive paper on this subject, gives the following *résumé*.

1. The internal coat of most of the arterioles of the organism is exposed during almost the whole of its existence to causes of irritation which tend to cause inflammation, narrowing, and consequently a proportionate diminution in the quantity of blood in circulation.

2. This progressive obliterative endarteritis begins in the first years of existence, and localizes itself, particularly in the case of young children, in certain nutritive vessels in the first portion of the aorta, whence the appearance of small patches of atheroma in this locality. Later it invades a large number of arterioles, localizing itself, however, by preference in those organs whose circulation and activities are greatest.

3. The progressive diminution of material carried to such a viscus gives rise at once to both atrophy of the important or functional elements, and proportional development of connective tissue. This sclerosis begins at as remote a point as possible from the diseased arterial trunks, where the nutrition is most insufficient. It is not preceded by lesions of the capillaries in this neighborhood. Finally the active cells in the vicinity of which it appears seem healthy and non-inflamed during the initial period and up to the time when the sclerosed tissue has taken on a notable development. "Nothing," says Dr. Martin, "proves (so it seems to us) that this is the consequence of inflammatory irritation." It is for this reason that the affection has been designated *dystrophic sclerosis*.

4. This knowledge regarding progressive endarteritis accounts for a large variety of visceral scleroses; it shows, also, the bond which, from a pathogenetic point of view, unites a certain number of scleroses. It shows, for instance, why cirrhosis should begin in such an organ rather than in such another; why, for example, that lesion of the heart which is considered consecutive to interstitial nephritis may, on the contrary, precede this nephritis; why endarteritis may localize itself primarily, or after other similar localizations (aorta, heart, etc.), in the nutritive arterioles of the posterior regions of the cord, and may there give rise to the lesion and the symptoms of ataxy; why, finally, there exists such remarkable similarity of feature between affections apparently so different.

5. Progressive endarteritis may evolve under the acute form, particularly in certain infectious diseases (diphtheria, typhoid fever). It then gives rise to rapid circulatory disturbances which may themselves alone cause death, when the organ affected is one which fills an important function,—the heart, for example.

6. The irritating particles which circulate in the blood, particularly in certain individuals (alcohol-drinkers, gouty, lead-poisoned persons), can only exaggerate and hasten the evolution of progressive chronic endarteritis. As for acute endarteritis in infectious diseases, modern theories of parasitism fit in admirably with this conception and explain its evolution naturally.

7. From a histological point of view, the proliferative lesion often begins in the endarteritis itself,—rests there localized or spreads beyond it. Sometimes, however,

* Hoarseness, Loss of Voice, and Stridulous Breathing. London, 1868, p. 30.

† Case X. Illustrations of Diseases of the Nervous System. London Hospital Reports, vol. i. p. 361.

it predominates beyond the internal elastic coating, dissociating then this coat; and in this case we must grasp the morbid process from its first phases to comprehend the point of departure of its localization and evolution.

The Effect of Long-Continued Minute Doses of Mercury on Animals.—Schlesinger, in a prize essay published in full in the *Archiv für Exp. Path.* (Bd. xiii. S. 352), gives the following conclusions.

Rabbits, and particularly dogs, bear without harm the continuance for a year of small doses of chloride of mercury and sodium. Compared with control animals, however, they show a certain increase in weight, while examination shows a surprising increase in the number of red blood-corpuscles. In spite of this, the urine of these animals shows no change in its ordinary constituents, and no sugar or albumen present at any time.

The animals killed after taking mercury during a shorter or longer period show no disease of any organ. They only show a larger accumulation of fat in those localities where fat is usually found in dogs.

While Keyes's conclusions as to the results of small doses of mercury are thus confirmed up to a certain point, Schlesinger is inclined to doubt the tonic action of mercury thus given; for, of all the favorable effects which we are accustomed to observe after the use of that certainly active tonic, iron, none appeared to be present after the employment of mercury. In those cases where iron acts as a tonic,—that is, where the blood appears to be impoverished of its normal hæmoglobin (*i.e.*, ferruginous contents),—we see going hand in hand with the increase in the number of red blood-corpuscles a rise in the body-temperature, increase in frequency in the pulse, in the body-weight, and in the excretion of urea. In the case of Schlesinger's dogs, increase in the number of blood-corpuscles and in body-weight was not accompanied by any change in the urinary excretion.

The increased number of red blood-corpuscles, together with the greater accumulation of fat, in the animals experimented upon, appears to show that the long-continued use of small doses of mercury, together with sufficient nourishment taken, exercises a repressive influence on the oxidation process to a slight extent. Should these researches be verified, the view must be accepted that by long-continued use of the bichloride of mercury with chloride of sodium the normal disintegration of the red blood-corpuscles is hindered in healthy persons, and, in part, precisely on this account a more considerable accumulation of fat occurs.

It may be supposed, then, that small doses of mercury do not act tonically in syphilitic patients, but that, when not sufficiently large to destroy the syphilitic virus, they leave the tissues entirely unaltered, and at most favor the increase of body-weight by their influence in retarding tissue-change and the disintegration of the red blood-corpuscles.

The following assertion, based upon the researches above mentioned, may be made,—namely, that Keyes's observations are correct, but that the conclusions which he has drawn from them are without foundation.

Case of a Tailed Man.—Max Bartels (*Virchow's Archiv*, Bd. lxxxiii. S. 189) gives an account of another of these curious formations. It occurred in the case of a hearty, well-formed man of 50. When undressed and leaning over, a body the size of a plum, covered with livid red skin, could be seen between the nates. It looked at first glance like a large hemorrhoidal tumor, but on separating the nates it was seen not to be connected in any way with the anus or nates, but to hang freely over it by a narrow cutaneous attachment to the upper end of the sacral notch, just over the point of attachment of the coccyx.

"Having just finished a work on human tails," says the enthusiastic Bartels, "the reader may imagine my agitation when I discovered this appendage, which occupied so undeniably the classical position of a tail. At once the hope was aroused in my mind of adding to the nineteen cases of tailed men thus far observed in Europe a twentieth,—a hope quickly dashed, however, by a further examination. If this appendage were a tail it should be congenital; but the patient asserted that it had only existed five years. However, when extirpated, the tumor had sufficient likeness in structure to pass for one." Bartels includes it under Virchow's classification as a "lipoma fibrosum cutis coccygialis pendulum." He remarks that there was perhaps a larger quantity of hair over the sacral region than is common.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, JULY 30, 1881.

EDITORIAL.

THE MEDICAL REGISTRY LAW.

AT the recent session of the Legislature of Pennsylvania an act was introduced which has now, by the signature of the Governor, become a law of the State, and which is intended to regulate the practice of medicine. It reads as follows.

AN ACT

To Provide for the Registration of all Practitioners of Medicine and Surgery.

SECTION 1. *Be it enacted by the Senate and House of Representatives of the Commonwealth of Pennsylvania in General Assembly met, and it is hereby enacted by the authority of the same,* That the prothonotary of each county shall purchase a book of suitable size, to be known as the medical register of the county (if such book has not been purchased already), and shall set apart one full page for the registration of each practitioner, and when any practitioner shall depart this life or remove from the county he shall make a note of the same at the bottom of the page, and shall perform such other duties as are required by this act.

SEC. 2. Every person who shall practise medicine or surgery, or any of the branches of medicine or surgery, for gain, or shall receive or accept for his or her services as a practitioner of medicine or surgery any fee or reward, directly or indirectly, shall be a graduate of a legally chartered medical college or university having authority to confer the degree of doctor of medicine (except as provided for in sec. 5 of this act), and such person shall present to the prothonotary of the county in which he or she resides or sojourns his or her medical diploma, as well as a true copy of the same, including any indorsements thereon, and shall make affidavit before him that the diploma and indorsements are genuine; thereupon the prothonotary shall enter the following in the register, to wit: the name in full of the practitioner, his or her place of nativity, his or her place of residence, the name of the college or university that has conferred the degree of doctor of medicine, the year when such degree was conferred, and in like manner any other degree or degrees that the practitioner may desire to place on record, to all of which the practitioner shall likewise make affidavit before the prothonotary, and the prothonotary shall place the copy of such diploma, including the indorsements, on file in his office for inspection by the public.

SEC. 3. Any person whose medical diploma has been destroyed or lost shall present to the prothonotary of the county in which he or she resides or sojourns a duly certified copy of his or her diploma; but if the same is not obtainable, a statement of this fact, together with the names of the professors whose lectures he or she attended, and the branches of study upon which each professor lectured, to all of which the practitioner shall make affidavit before the prothonotary, after which the practitioner shall be allowed to register in manner and form as indicated in section 2 of this act, and the prothonotary shall place such certified statement on file in his office for inspection by the public.

SEC. 4. Any person who may desire to commence the practice of medicine or surgery in this State after the passage of this act, having a medical diploma issued or purporting to have been issued by any college, university, society, or association in another State or foreign country, shall lay the same before the faculty of one of the medical colleges or universities of this Commonwealth for inspection, and the faculty being satisfied as to the qualifications of the applicant and the genuineness of the diploma shall direct the dean of the faculty to indorse the same, after which such person shall be allowed to register, as required by section 2 of this act.

SEC. 5. Any person who has been in the continuous practice of medicine or surgery in this Commonwealth since one thousand eight hundred and seventy-one without the degree of doctor of medicine shall be allowed to continue such practice, but such person shall, nevertheless, appear before the prothonotary of the county in which he or she resides, and shall present to him a written statement of these facts, to which the practitioner shall make affidavit; thereupon the prothonotary shall enter the following in the register, to wit: the name in full of the practitioner, his or her place of nativity, his or her place of residence, the time of continuous practice in this Commonwealth, and the place or places where such practice was pursued, to all of which the practitioner shall likewise make affidavit, and the prothonotary shall place the certified statement on file in his office for inspection by the public.

SEC. 6. Every practitioner who shall be admitted to registration shall pay to the prothonotary one dollar, which shall be compensation in full for registration, and the prothonotary shall give a receipt for the same.

SEC. 7. Any practitioner who shall present to the faculty of an institution for indorsement, or to a prothonotary, a diploma which has been obtained fraudulently or is in whole or in part a forgery, or shall make affidavit to any false statement to be filed or registered, or shall practise medicine or surgery without conforming to the requirements of this act, or shall otherwise violate or neglect to comply with any of the provisions of this act, shall be deemed guilty of a misdemeanor, and on conviction shall be punished for each and every offence by a fine of one hundred dollars, one-half to be paid to the prosecutor and the other half to be paid to the county, or be imprisoned in the county jail of the proper county for a term not exceeding one year, or both, or either, at the discretion of the court.

SEC. 8. Nothing in this act shall be so constructed as to prevent any physician or surgeon legally qualified to practise medicine or surgery in the State in which he or she resides from practising in this Commonwealth, but any person or persons opening an office or appointing any place where he or she may meet patients or receive calls shall be deemed a sojourner, and shall conform to the requirements of this act.

SEC. 9. This act shall take effect on the first day of June, one thousand eight hundred and eighty-one.

The advantage to the community of such a law as the present has long been obvious, and credit is due to the framers of this act and to those instrumental in having it passed by the Assembly. The fact that an official register of legally qualified practitioners of medicine exists, and can readily be consulted, must alone serve to draw a

line of distinction between the illegal quack and the legally qualified physician which can be appreciated by all. And the severe penalty, pecuniary and personal, which attaches to any infraction of the law should, we hope, tend to make the unauthorized pursuit of medical practice a much more difficult matter than it has been in the past.

The requirements for registration are not onerous,—the moderate fee of one dollar, and the presentation of the diploma with due affirmation of its authenticity, being all that is required, save that a copy of the diploma must be placed on file. He to whom time and inclination are wanting to transcribe his diploma may without difficulty obtain a printed copy. These are, indeed, already issued officially by the University, and will, we doubt not, also be furnished by the other medical colleges.

A weak point in this otherwise admirable law is, it appears to us, the fact that no limit of time is fixed for registry beyond which the penalty may be exacted for non-compliance. The act went into effect on June 1. Are all practitioners who failed to register on that day liable to fine and imprisonment? Hardly, we should think. But, on the other hand, how long are the ignorant, negligent, and criminously inclined to be permitted to neglect registration? Indefinitely? It looks like it. We venture also to wonder how the prothonotary is to know when any practitioner has "departed this life." Must he scan the daily papers for this purpose? But, on the whole, the act is a good one, and fraught, we may hope, with advantage to the dignity and respectability of the profession and the health and safety of the community.

How to Register.—Take diploma and a printed copy thereof, with dates and names filled in, to Dr. S. B. Hoppin, the courteous functionary who has charge of the Medical Register, and whose desk is in the Prothonotary's Office, State-House Row.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

An adjourned conversational meeting was held May 18, to continue the discussion on "Alcohol."

Dr. Pepper read a paper on "The Effects of the Prolonged Use of Alcohol on the Viscera, Nervous System, and Organs of Special Sense" (see p. 686); and Dr. Jas. H. Hutchinson one entitled "The Symptoms and Treatment of Alcoholic Poisoning, Acute and Chronic" (see p. 687).

DISCUSSION ON ALCOHOL (*continued*).

Dr. Jas. Tyson thought that the influence of alcohol as a direct cause of renal disease had been exaggerated by many. This error was pointed out by Dr. Dickinson in the first edition of his book, and confirmed by autopsies. The effect of alcohol upon the kidneys is trifling in comparison with the action of other causes to which drunkards are exposed. The speaker had examined the urine of men accustomed to use large amounts of whisky,—drinking a pint or more daily,—and had found it free from albumen and free from casts: this had occurred over and over again. Nevertheless, there can be no doubt that drunkards are largely subjects of Bright's disease: this, however, is not the direct effect of the alcohol, but is due to the exposure to which they are constantly subjected. Of course the kidneys can be directly affected by large doses of alcohol; but this is comparatively seldom. The explanation is that before the alcohol can reach the kidneys it has to pass the bulwark of the stomach, liver, and, more especially, the lungs, where the oxidation is very rapid: very little is left in the blood which reaches the kidneys. When poisonous doses of alcohol do affect the kidneys, they produce tubal nephritis rather than interstitial, the poison operating more like that of scarlet fever.

Dr. C. B. Nancrede confirmed the observation of the lecturer that the children of the insane are more apt to be especially affected by alcohol. He reported a case of a young man whose father was insane, and whose mother was eccentric and subject to ungovernable attacks of rage. On various occasions a single glass of stimulant had caused vomiting, followed by symptoms of mania, which passed away in a week or ten days. Both father and son presented the identical symptoms at the beginning of their outbreaks.

Dr. W. F. Stewart called attention to the increased action of the heart under the effect of alcohol, as pointed out by Richardson, of London, causing an increase of from 17,000 to 24,000 beats in the twenty-four hours. In health such extra exertion must be unnecessary and injurious. The same authority con-

cludes that the alcohol affects the blood by condensing and contracting the red blood-corpuscles.

Dr. W. R. D. Blackwood said that he had seen many cases of mania and delirium tremens, and was confident that the treatment by opium had been abused. He now relied upon bromides. Moreover, he was confident that both the acute and chronic cases are better without whisky than with it. In preference to all other remedies he held digitalis: where it has failed, it is because it has not been used in sufficiently large doses. He usually gave drachm doses, but had given as much as an ounce of the tincture, repeated every three hours, and kept up for twenty-four hours,—giving in all six or eight doses,—and considered it just as safe in these doses in delirium tremens as in ten- or fifteen-drop doses under ordinary circumstances. His cases now get well without any stimulant better than they did some years ago with stimulants. The patients do not take food readily at first, on account of the gastric catarrh; but it is of great importance to give nourishment during the early stages of delirium tremens, and milk and meat extracts should be given regularly. In conclusion, he insisted that digitalis is safe in the enormous doses mentioned in delirium tremens, and is to be preferred above all other remedies which we possess.

Dr. F. G. Gross asked the preceding speaker if he had tried the infusion of digitalis. It is strange that he had recommended withholding all stimulants, and gave a tincture in half-ounce or ounce doses six or eight times in one day. This represents a considerable amount of alcohol, and as much as is ordinarily given.

Dr. Blackwood said that he had obtained the same effects from the infusion. He did not mean to say that the tincture should always be given in such large doses where smaller ones will answer the purpose, although digitalis is well borne in large doses in delirium tremens.

Dr. R. B. Cruice said that he had treated 1008 cases of alcoholism at the St. Joseph's Hospital during the last six years. The usual treatment is to give a purgative and then capsicum (three grains every hour), which stops the craving for drink and quiets the stomach. He gives a moderate amount of stimulants, depending upon hop tea and capsicum to relieve the restlessness. The food is light,—principally milk, tea, and highly seasoned soups. When there is much vomiting and pain, a small blister is placed over the epigastrium, and in some cases he applies a blister at the back of the neck. As soon as the patient begins to eat, alcohol is stopped entirely. Out of this series of more than a thousand cases there had been but one death. Opium and morphia were not used, but bromide of potassium was given in the evening if there was persistent sleeplessness; chloral was also given in special cases, but never more than one hundred and twenty grains in twenty-four hours.

Dr. Chas. K. Mills, referring to Dr. Pepper's remarks, said that he had seen a number of cases in which alcohol had developed a latent gout, or neuralgia, and even some forms of local palsy, paresis, or spasm. No class of nervous disorders respond so well to treatment as those due to alcohol in cases of gouty diathesis.

In regard to the relation between alcohol and nervous disorder, he believed that alcohol is a cause of some of the more chronic and prevailing nervous diseases. Sclerosis of brain and cord and peripheral neuroses may be due to the abuse of alcohol; but it is somewhat difficult to decide its exact influence, because such patients have generally been the subjects of syphilis and other excesses besides alcohol. The changes observed post mortem, however, in the tissues of the nervous system are much more likely to be due to alcohol than to syphilis. Epilepsy is often developed by alcohol, and cerebral meningitis of chronic form. In the case of a man who has used alcohol for years, there is enlargement of the Pacchionian granulations, and over the median and convex surfaces of the hemispheres the pia mater is milky-white or amber color; the dura mater also shows inflammatory change,—usually internal pachymeningitis of low grade and slow formation. Whether the alcohol acts upon the affected organs primarily or secondarily he was not able to decide positively, but thought that often it did act directly.

Dr. John B. Roberts remarked that alcohol may be used as an accessory article of food with advantage when used in moderation, in the opinion of Dr. Carter, of London; but the same argument would apply to the use of arsenic in Styria. Alcohol is a poison, and could not be used with impunity. The effect of alcohol upon the special senses is seen perhaps to better advantage by those who are called upon especially to treat diseases of the eye. Retinitis is frequently attributable to this cause, especially where it is combined with tobacco; retinitis potatorum is a condition generally recognized.

Delirium tremens had been referred to as being caused by the sudden withdrawal of stimulants; but he had seen a great many cases of traumatic delirium in drunkards following injuries. The highest temperature he had observed in such a case was 108° F., just before death.

Dr. W. S. Little doubted very much if it would be possible to diagnose a case of retinitis due to alcohol from another depending upon the nervous system. In a case of alcoholism the optic nerve is "dirty," there is intense redness, the vessels slightly smaller, some retraction of the field of vision,—scotoma,—from a cause not in the retina, but due to failure in the optic nerve itself. It

would be difficult to see a retinitis except in this way.

He had seen the same tremor in the ciliary muscles which is noticed in the other muscles, and thought that the "roaches and mice" seen by the patient are due to emptying of the retinal vessels, the ciliary muscles having the same effect upon the circulation of the blood in the retina as the voluntary muscles have upon the circulation in the leg. Color-blindness he had seen caused by alcohol, which was relieved by cutting off supplies of alcohol and tobacco.

Dr. J. Ashhurst, Jr., said that one point in regard to the effect of injuries in the development of delirium tremens would bear further remark. Some cases exhibit these effects in a different way from those alluded to by Dr. Hutchinson. After injury the patients are carried to a hospital, where the diet contains no stimulants, and, as pointed out by Dr. H., they may have delirium tremens as a result. But there is a view lately advanced by Prof. Verneuil, that the injury itself acts in latent alcoholism as an exciting cause. There are cases, in fact, where, from the time of receiving the injury to the outbreak of the alcoholism, the patients are under the effects of alcohol. There is no question of want of supply. Dr. Roberts had confounded traumatic delirium with delirium tremens: the first is the result of undue reaction after shock, and may occur in perfectly temperate men. Travers well described some of these cases under the name of prostration with excitement. These cases are to be treated by a proper amount of stimulant. Delirium tremens is entirely different, and is due to alcoholic poisoning. It may occur without shock after a very slight wound, such as a scalp-wound or the amputation of a finger, or, indeed, no injury whatever. The two conditions should not be confused.

Dr. Hutchinson said in regard to the production of disease of the kidney only by the use of large amounts of alcohol, that while acknowledging the force of the observation we must acknowledge that other organs are affected through the medium of the blood,—for instance, the nervous system, as instanced by another speaker. Moreover, alcohol does not generally produce an acute form, but the chronic or latent form, of Bright's disease, in which the amount of the albumen may be small, or it may be entirely absent from the urine. Therefore it is perfectly possible that even large quantities may be used without producing albumen in the urine.

The effects of tincture of digitalis have been studied by Anstie, who attributes the good effects to the alcohol it contains, as all the experiments made with the infusion were failures. It is not safe to give such large doses as had been recommended of so dangerous a remedy.

He had no doubt of the occurrence of meningitis as a result of alcoholism, and he had reported a perfect illustration of this in the paper. Nor had he any doubt as to the production of delirium by the sudden withdrawal of stimulants, or as to its occasional occurrence after slight injuries in those addicted to the excessive use of alcohol.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, APRIL 14, 1881.

The PRESIDENT, DR. S. W. GROSS, in the chair.

Specimens from a case of obstinate constipation of eighty-seven days, caused by a cancerous stricture of the descending colon. Exhibited by Dr. E. P. BERNARDY.

THE patient, male, aged 25, previous to his last illness had always enjoyed good health. About a year ago, after eating a hearty meal he lay on the floor, and while in this position a child four years old fell from the bed, striking him on the abdomen. This was followed in an hour by a free intestinal hemorrhage, which proved obstinate and only yielded after a week's treatment. Dating from this time, he suffered more or less from colicky pains, accompanied with constipation, which were relieved by purgative medicine. On July 19, 1880, after suffering for a week, and after taking several purgatives to relieve him, finding himself worse, he called in his family physician, who placed him on small doses of mass. hydrarg., ext. belladonnæ, and ext. nucis vomic. This treatment was followed by relief for a few days, when his sufferings returned with increased intensity, and constant vomiting of a bilious matter supervened. The pills were changed to powders of calomel and morphia. On July 31 his bowels were spontaneously opened, making the nineteenth day from his last passage. The abdomen now commenced to be tympanitic. The rectum was then made to take the place of the stomach, beef-tea and brandy injections being ordered.

I saw the patient for the first time on August 1, 1880. He was somewhat emaciated; pulse 120; tongue dry, but not coated, looking somewhat red and irritated; with a temperature of 101°. The abdomen was enormously distended and tympanitic; in the *right inguinal* region was an indurated mass, dull on percussion: there was no pain on the left side. On account of the indurated mass on the right side, I was somewhat dubious as to my diagnosis, but was of the opinion that I had to deal with a stricture. I simply ordered chloral hydrate with morphiæ sulph., and externally flaxseed poultices. By some misunderstanding, I did not see the case again until September 10, 1880, when I was requested to meet Dr. Hooper in consultation. The con-

dition of the patient was in every way worse: all the above conditions were increased, the spasm of the bowels could be distinctly seen through the attenuated abdominal walls, and everything was rejected from the stomach. The indurated mass in the right side had increased in size, having the appearance as if it were about to ulcerate. All medicines by the mouth were stopped, and hypodermic injections of morphia ordered.

The condition of the patient was the same, with slight variations, up to October 1, 1880, when word was sent that the bowels had been opened; but on examination it proved to be the accumulated residue of the beef-tea injections. On the 5th of October the patient suffered greatly from tenesmus. On examination a large hemorrhoid was found protruding. I then passed my hand up the rectum, but detected nothing. Two days after, I repeated the examination, and detected through the walls of the rectum, on the right side, a large tumor, which filled the whole top of the pelvis: it could easily be indented, but it could not be pushed aside. This on post-mortem proved to be the greatly distended lower portion of the ascending colon. Examination of the left side revealed, as I thought, a stricture just at the superior strait. On October 11, 1880, Dr. Curtin was called in consultation. The patient was then suffering the most agonizing pain. Dr. Curtin confirmed my diagnosis. A few days after, to relieve the patient from the abdominal distention, I passed an aspirator needle through the abdominal walls, which gave vent to a large quantity of air.

On Saturday, October 16, 1880, Dr. Parish saw the case with me. The patient was very low, and Dr. Parish suggested the formation of an artificial anus. This I had proposed on my second visit, but was opposed by the family; but I doubt if the operation would have been of any benefit.

The patient gradually continued growing worse. Tuesday afternoon, October 26, 1880, he had a slight passage of a clay color and very offensive. This was the eighty-seventh day from his last passage. On the morning of October 27, 1880, he passed nearly half a chamber-full of the same-colored fæces. His pulse was then 140, he was semi-conscious, and was evidently dying. Death took place on the morning of the 28th of October, 1880, after the most excruciating suffering.

Post-mortem.—Present, Drs. Hooper, Parish, Allis, and Bernardy. Dr. Allis conducted the autopsy, which was made about six hours after death. Body greatly wasted, with every appearance of death from starvation. Abdomen distended and tympanitic. An incision was made from the ensiform cartilage to the pubes, and a second along the lower border of the ribs: this brought all the intestines directly into view, greatly distended, and of a dull silver color, with the arteries greatly enlarged. Both the small and large intestines were dilated, the latter the most. The usual displacement in such cases was present,—viz., a letter U displacement of the transverse colon. A remarkable feature in the case was the pushing up of the liver, so that its lower surface was on a level with the nipple and about five inches from the lower border of the ribs.

The position of the constriction was in the left iliac fossa, above the sigmoid flexure, and seventeen inches from the anal orifice.

The kidneys and liver were examined, but no disease was apparent. The stomach was somewhat contracted, and pushed up under the sternum.

The examination was confined to the abdomen.

Thursday Evening, May 12, 1881.

The President, Dr. S. W. Gross, in the chair.

Two cases of carcinoma mammæ. Presented by Dr. C. B. Nancrede.

The two cases I have to present for your consideration this evening have been announced to be of special interest because they illustrate the varied course pursued by different cases of the same disease. In brief, their histories are as follows.

Case I.—Mrs. C., aged 32 years, mother of four children, was seen by me in consultation with her attendant, Dr. G. A. Rex, September 3, 1880, when I found the following conditions present. At the lower inner part of her right mammary gland was a hard, circumscribed tumor, of the size of a walnut, which moved with the breast tolerably freely over the pectoral muscle. Under the anterior fold of the axilla was another mass, evidently consisting of enlarged glands, which fully equalled in size the mammary growth, if it did not exceed it in bulk. No tenderness over the tuberosity of the humerus was noted. The tumor had been noticed barely three months previously, which date must have corresponded almost to its incipiency, as the patient said that when she first detected it the growth did not exceed in size a small bean. A broken corset steel had bruised the breast at this point, and the injury had led her to examine the breast. The patient was a robust, healthy woman, and had been delivered only about six weeks when she detected the tumor. Her mother was healthy, but her grandmother had died with carcinoma mammæ. September 26, 1880, I removed the whole gland, with the superimposed skin, dissected off the pectoral fascia, fat, etc., and cleared the whole axilla of its glands, enlarged or not, until the capsule of the shoulder-joint could be readily felt. Antiseptic precautions were used, and the wound healed by the first intention, except the track of the drainage-tubes. The skin was so lax —owing to the recent cessation of lactation

and the consequent shrinking of the breast—that, although the skin was extensively removed, very little tension resulted from the apposition of the cut surfaces. Over seven months after the operation the patient shows no return of the disease.

Case II.—Miss H. R., aged 52, with a clear family history, came to me from a neighboring State on November 25, 1880, with her entire left breast converted into a growth of stony hardness. The growth did not much exceed in bulk the normal gland. The skin over the growth presented a roundish ulcerated surface about an inch and a half in diameter. This ulcer showed the characteristic appearances of carcinoma ulcerans. Between five and six years ago she first noticed the tumor, but in which segment of the gland I am unable to say. The growth slowly increased, with but moderate pain. Neither before nor after the operation could any enlargement of the axillary glands be detected. No tenderness over the upper extremity of the humerus could be discovered. November 29, 1880, the growth was removed, with the whole of the investing skin, part of the pectoral muscle, fascia, fat, etc. No glands could be found to remove. By dissection of the skin from the chest-walls, the enormous wound left was reduced to about one-third and dressed with carbolized oil. The patient did well, and when last heard of had no return of the trouble, although a small central spot, owing to tension, etc., had declined to heal, but *did not extend in the slightest.* Her health improved markedly after the operation.

It is hardly necessary to indicate the points of interest in these two cases, presenting as they do such a marked contrast as to the contamination of the neighboring lymphatics, and the importance of judging each case upon its own merits, and not upon any preconceived ideas as to when we should, or should not, operate.

Dr. S. W. Gross remarked that one point had been alluded to by Dr. Nancrede which he had been at some pains to test by his own experience,—viz., the presence or absence of tenderness in the region of the greater tuberosity of the humerus in cases of carcinoma. Attention had been lately called to this by Mr. Snow, of London. In the last twenty cases of carcinoma mammæ under his care, careful examination had failed to discover tenderness over this portion of the humerus. *A priori*, such an involvement of the humerus is improbable, since it has been observed that this bone is very rarely affected in secondary cancerous disease of the osseous system. As his own experience in twenty cases totally failed to reveal such tenderness, and as the pathological fact just cited was against it, he was inclined to view the new symptom as worthless as a means of diagnosis.

Dr. Longstreth asked Dr. Gross whether any actual examination of the medulla of the bones had been made in the cases cited from an English source which would prove this supposed involvement of the marrow-cells.

Dr. Gross, in reply, said that he was unaware of any such.

Dr. Longstreth said that he had asked the question because in one specimen examined by him he thought that he had found the medulla cells affected. He would like to ask the experience of the members as to whether the amount of cells, the signs of their active proliferation, and the involvement of the surrounding tissues could be relied on as to the rapidity of the return or the likelihood of metastasis, and related several cases where he had been induced by such appearances to predict a rapid recurrence, but where the course of the cases completely refuted his opinion.

Dr. S. W. Gross, in reply, said that if Dr. Longstreth continued to examine such cases and make similar prognoses he would find his opinions justified by rapid returns and dissemination in the majority of cases. In general terms, the less connective tisue, the greater malignancy.

Dr. Nancrede remarked that he would like to relate the ultimate result of a case of somewhat similar disease, which illustrated the extreme rapidity of course pursued by malignant growths where the cells were at a maximum. The members might perhaps recall a specimen exhibited by him before this Society, about a twelvemonth since, of large spindle-celled sarcoma of the breast, which had been opened by the attending physician in mistake for a chronic abscess, so deceptive was the sense of fluctuation produced by the excessive softness of the growth and the hemorrhages occurring in its substance. In removing it, Dr. Nancrede only succeeded in saving its pseudo-capsule and one or two small fragments for microscopic examination. In four months the lungs were crammed with deposits, which terminated this lady's life in about nine months after operation, and less than one year from the first appearance of the disease.

REVIEWS AND BOOK NOTICES.

A Treatise on Bright's Disease and Diabetes. By James Tyson, M.D. Philadelphia, Lindsay & Blakiston, 1881.

Of the 310 pages of this book 226 are devoted to a consideration of the various affections which are habitually grouped together under the name of the famous London physician, and the rest are set apart for diabetes. In the Bright's group Dr. Tyson recognizes six individual affections,—acute and chronic parenchymatous nephritis, lardaceous disease, interstitial nephritis, suppurative interstitial

nephritis, and cyanotic induration. When the chapters which treat of these affections are studied, it will be found that they embody all that is known concerning the disease of which they treat. Whilst the historic side of the various subjects is not at all neglected,—the author evidently being equally well read in the literature of the past and the present,—the modern developments of the scientific and clinical aspects of the diseases have been elaborately and carefully studied, and the well-digested results given at length to the reader in a clear and agreeable form. There is at present no great English practice of medicine fully representing the science and art of the day, and comparable to the treatises of Watson and Wood as we studied them in our youthful days. Such a monograph as the present would well make a section of a general work of the old style; and perhaps it is better that the practitioner should fill his library with these brief, sententious monographs written by various hands than be dependent upon a single classic treatise, the output of one great mind.

A New Form of Nervous Disease—Essay on Erythroxylon Coca. By W. S. Searle, M.D. New York, Ford, Howards & Hurlbut, 1880.

We have read enough of the first of these essays not to want to read more. When an author believes that "the delicate and weakly may imbibe strength and vitality from rubbing at the hands of a vigorous man or woman," we think he ought to rub his own *caput* against some head which contains a little common sense. The new disease may possibly be a disease in the sense that athetosis, neurasthenia, etc., are called diseases,—*i.e.*, in being either a symptom or a condition,—but is characterized so unscientifically by Dr. Searle as to excite deserved ridicule. "A distinctive phenomenon," we are told, "is passive congestion, usually of the cerebellum only." Evidently the doctor is furnished with the double-million-magnifying gas microscope of hextra power, that the well-known Samuel Weller thought would be necessary to enable him to run up two flights of stairs, round one corner, and through a two-inch deal door, and is able, even in a negro with a thick skull, to watch the play of the blood-supply in the inmost cerebellum. It is a pity that we commoner mortals are not also possessed of so valuable an instrument.

Medical Electricity. By Roberts Bartholow, M.D. Philadelphia, H. C. Lea's Son & Co., 1881.

This is a well-put-together, handsomely illustrated treatise of over 260 pages, written in the author's popular style. Evidently a successful book; not remarkably original, but showing a thorough acquaintance with the subject; mostly sound in its teaching, but occasionally erring in the dogmatic statement of asserted truths whose character is, in truth, doubtful. Witness the account of the effects of galvanization of the sympathetic ganglia of the human neck from the outside of the body,—the statement on page 98,—"The direct application of the continuous galvanic current to the superior ganglion of the sympathetic contributes to the activity of the circulation, re-establishes it when arrested," etc.; also the assertion on page 183 as to the curative powers of galvanism in migraine.

A Text-Book of Practical Medicine. By Dr. Felix von Niemeyer. Revised Edition. New York, D. Appleton & Co., 1881.

In 1871, Prof. Niemeyer passed from his earthly labors, and the present volumes are not, in truth, the work of his hands. In 1880, Dr. Eugene Seitz edited a posthumous edition of the work, cutting and slashing, modelling and adding, until the book was scarcely more Dr. Niemeyer's work than a piebald circus-horse is a bay mare. The present volume is an attempt upon the part of Drs. George H. Humphreys and Charles E. Hackley, of New York, to make the book of Dr. Seitz resemble more closely the original work of Prof. Niemeyer. A good treatise upon the practice of medicine has been the result; but it should have been entitled "A Practice of Medicine founded upon that of the Late Professor Niemeyer."

Anatomical Studies of the Brains of Criminals. By Moritz Benedikt. Translated by Dr. E. P. Fowler. New York, Wm. Wood & Co., 1881.

This book consists of very detailed descriptions, fully illustrated by wood-cuts from photographs, of a number of brains of criminals. The brains were all more or less defective, especially in gyrous development, the fissures being accordingly abnormally large. The book is of value as a solid contribution to psychological anatomy, but will hardly interest the general medical reader.

GLEANINGS FROM EXCHANGES.

Removal of a Kidney on Account of Uretro-Uterine Fistula.—Crédé (*Archiv f. Gynäk.*, Bd. xvii. Hft. 2; *Edinburgh Medical Journal*) extirpated the right kidney in the case of a fistula the result of a parametric abscess following labor. There was a constant flow of urine from the vagina, while at the same time urine was passed in the natural way, and no fluid could be forced out of the bladder into the vagina. By means of a speculum the urine was seen to flow through the os uteri. On dilatation of the os and examination of the cavity of the uterus, a small depression in its upper right side was found, through which the urine gained access to the uterus. The operation was successful.

NEW BASE FOR OINTMENTS AND SUBSTITUTE FOR LARD.—Dr. J. B. Moore (*Druggists' Circular*, July, 1881) recommends the following:

℞ Lard, 16 troyounces;
White wax, 4 troyounces;
Cosmoline, 4 " "

Melt the wax by means of a water-bath, add the lard and cosmoline, and stir the mixture occasionally until liquefied, and, if necessary, strain through muslin. Stir the mixture constantly until cool.

The mixture should be allowed to cool at the ordinary temperature. If the refrigeration is urged by placing the vessel in cold water, as is sometimes injudiciously done, there is danger of causing irregular solidification.

BELLADONNA - POISONING SUCCESSFULLY TREATED BY PILOCARPIN.—Dr. Grattan (*Lancet*, vol. i., 1881, p. 951) was called to see a woman who had swallowed, by mistake, fʒii fʒii of lin. belladon. (B. P.), apparently a favorite beverage of the English lower classes, if we may judge by the number of cases where it is swallowed purposely or by accident. Dr. Grattan, after washing out the stomach, gave a hypodermic injection of one-fifth of a grain of pilocarpin, repeating the injection thrice at intervals of fifteen minutes, four-fifths of a grain having thus been given. The patient recovered.

MISCELLANY.

RABIES INOCULATED BY CEREBRAL SUBSTANCE.—Prof. Pasteur and his assistants have on different occasions, and often with success, inoculated the medulla oblongata, and even the frontal portion of one of the hemispheres and the cerebro-spinal liquid, with the product obtained by the expression of the substance of the brain of a rabitic individual. Under these circumstances the rabies has always exhibited the ordinary period of incubation. The saliva, therefore, is not the sole seat of the rabid virus, the brain also containing it, and being there possessed of a virulence at least equal to that met with in the saliva of rabid animals. Prof. Pasteur hopes to shorten the incubation of his experimental rabies, so that he will not have to wait so long to observe the effects of inoculations. He says everything is prepared in his laboratory for carrying on the study of rabies on a most extensive scale.

DR. CHARLES T. HUNTER has been appointed Demonstrator of Anatomy in the University of Pennsylvania in succession to the late Dr. Hodge, and Dr. J. William White has been appointed Demonstrator of Surgery in Dr. Hunter's place.

AFTER personal use, we can commend the Arthur Gynæcological Chair as very well made and very well adapted to its purpose.

ACCORDING to trustworthy medical reports, the Isle of Wight is in a dangerously unsanitary condition, and intending visitors are warned off by the English medical journals.

ANOTHER MASK FOR THE ODOR OF IODOFORM.—Dr. Peterson suggests a drop of tincture of musk to the ounce of iodoform, whether in a solid or a liquid form.

THE twenty-fifth anniversary of Dr. Rudolph Virchow's appointment as Professor in the University of Berlin is to be celebrated on October 13.

NOTES AND QUERIES.

AMERICAN OTOLOGICAL SOCIETY.

THE Fourteenth Annual Meeting of the Society will be held in Newport, R.I., on Tuesday, July 26. The following papers have been announced. 1. "Suggestions regarding the Treatment of Suppurative Otitis." Dr. S. Theobald, Baltimore, Md. 2. "On the Value of Operations in which the Tympanic Membrane is Incised." Dr. D. B. St. John Roosa, New York, N.Y. 3. "On the Tuning-Fork in Diagnosis." Dr. D. B. St. John Roosa. 4. "On the Use of Calcium Sulphide in Inflammatory Diseases of the Ear." Dr. Samuel Sexton, New York, N.Y. 5. "The Relative Frequency of Disease of the Right and the Left Ear." Dr. R. C. Brandeis, New York, N.Y. 6. "Removal of Foreign Body by Disarticulation of the Auricle." Dr. J. Orne Green, Boston, Mass. 7. "Malignant Growth in the Naso-Pharynx, with Early Aural Symptoms." Dr. C. H. Burnett, Philadelphia, Pa.

Secretary,
DR. I. I. B. VERMYNE,
80 Spring Street,
New Bedford, Mass.

THE American Surgical Association will hold its first regular meeting at the Oriental Hotel, Coney Island, September 13, 14, and 15. Papers are expected from several gentlemen.

THE Fifth Annual Meeting of the American Dermatological Association will be held at Newport, R. I., on August 30 and 31 and September 1.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM JULY 10 TO JULY 23, 1881.

SIMONS, JAMES, LIEUTENANT-COLONEL AND SURGEON.—Granted leave of absence for one month. S. O. 120, Department of the East, July 15, 1881.

AINSWORTH, F. C., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty at Fort Clark, and assigned to duty as post-surgeon at Fort McIntosh, Texas, relieving Assistant-Surgeon Gorgas. S. O. 90, Department of Arizona, July 14, 1881.

MAUS, L. M., CAPTAIN AND ASSISTANT-SURGEON.—Now awaiting orders in Washington, D.C., to report in person to Commanding Officer, Davids' Island, N.Y.H., for temporary duty at that post. S. O. 158, A. G. O., July 13, 1881.

COMEGYS, E. T., CAPTAIN AND ASSISTANT-SURGEON.—Now awaiting orders at Cincinnati, O., to report in person to Commanding Officer, Columbus Barracks, O., for temporary duty at that post. S. O. 158, c. s., A. G. O.

GARDINER, J. DE B. W., CAPTAIN AND ASSISTANT-SURGEON.—The extension of leave of absence granted him in S. O. 59, March 14, 1881, from A. G. O., further extended six months. S. O. 157, A. G. O., July 12, 1881.

SHANNON, WILLIAM C., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty with escort to the commission from Fort Bridger to the Uintah Agency. On return of commission to Bridger, to rejoin his station, Fort D. A. Russell. S. O. 62, Department of the Platte, July 6, 1881.

GORGAS, W. C., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—When relieved at Fort McIntosh, Texas, to report to Commanding Officer, Fort Duncan, Texas, as post-surgeon. S. O. 90, c. s., Department of Texas.

PHILADELPHIA, AUGUST 13, 1881.

ORIGINAL COMMUNICATIONS.

VACCINATION.

Read before the Philadelphia County Medical Society, May 25, 1881,

BY W. M. WELCH, M.D.,
Physician to the Municipal (Smallpox) Hospital.

THE Society having requested that the subject of vaccination be presented for discussion, its Directors have honored me with the invitation to make the introductory remarks. In accepting as I do with pleasure this invitation, it is not my purpose to enter into anything like an elaborate discussion of this comprehensive subject, nor shall I be able within the short space of time at my disposal to even touch upon all the points of interest, but I propose merely to direct attention to and invite discussion on some of the more important and practical points in connection with this vastly important subject. The topics, therefore, which I have selected are as follows:

1. What conditions of the system contra-indicate vaccination? Does pregnancy forbid its use?
2. What is the best method of performing vaccination?
3. The course of true vaccinia.
4. The comparative value of humanized and bovine lymph.
5. The prophylactic power of vaccination.
6. Does vaccination in infancy protect through life?
7. What is the value of revaccination?

When vaccination is to be performed, it is of course desirable that the child should be in a good state of health. Acute diseases and cutaneous eruptions of all kinds are generally regarded as contra-indications, and among the latter affections herpes, eczema, and intertrigo are said to be very liable to interfere with the regular course of the vaccine vesicle. But under exposure to the variola contagion no condition of the system should stand in the way of vaccination. Under such circumstances I have frequently vaccinated persons suffering from measles, scarlet fever, chicken-pox, etc., and with no unpleasant results, but, to the contrary, have prevented variola.

While it is desirable that an infant should attain the age of at least three months before vaccination is performed, yet when there is immediate risk of infection no age is too early. I have repeatedly vaccinated infants on the day of their birth without any untoward effects.

A question about which there seems to be a good deal of confusion, and one which has been answered both affirmatively and negatively, is, Does pregnancy forbid vaccination? In times of smallpox prevalence I have found no difficulty in answering this question to my own satisfaction and guidance. Though my experience in this direction is not very great, I have seen nothing to lead me to believe that pregnant women incur any special risk under vaccination. Of this, however, I am very certain, viz., that smallpox among pregnant women is very fatal: abortion generally occurs, and death is the usual result. To justify, therefore, excepting pregnant women from vaccination, particularly under circumstances of exposure, it ought to be shown that the risks from vaccination are as great as from smallpox; and this I am sure has never been done.

The late Dr. Charles D. Meigs, regarding cowpox and smallpox as identical in nature and as only differing in intensity, said,* "Do not vaccinate them [pregnant women]. I have been the witness of dreadful distress from the operation. Eschew it, I entreat you."

On the other hand, Dr. Barnes's experience seems to justify the following conclusions:†

1. "Pregnant women living under epidemic or zymotic influences are more prone to take the prevalent morbid poison than others.
2. "Having taken a morbid poison, they are less able to throw it off.
3. "Their system is less able to resist its injurious action. Abortion and a most dangerous form of puerperal fever are very likely to follow."

Dr. Barnes thinks we may conclude, in the absence of decisive evidence of special danger, that "pregnant women are entitled to equal protection against smallpox with the rest of the community, and that vaccination or revaccination should be practised on pregnant women, in their own

* Females and their Diseases, p. 575.
† Half-Yearly Abstract of the Medical Sciences, July, 1871.

interest, as well as in that of the community of which they form a part."

The next topic to which I shall invite attention is, *What is the best method of performing vaccination?* This question is often asked by younger physicians, and I do not wonder at it, because little or no instruction is given on this point in our medical colleges. The frequent failures that follow the operation, and often spurious results pronounced genuine and protective, fully attest the fact that there is a great deal of carelessness, if not downright ignorance, often displayed in the simple yet important matter of vaccination. During an epidemic prevalence of smallpox nothing is more common than admission to the hospital of unvaccinated patients, stating that they had been vaccinated several times,—perhaps recently,—and that it would not "take;" and their doctor is often quoted as saying that it failed to "take" because their blood was too pure.

Now, if vaccination in an unprotected person is skilfully performed, and with well-selected vaccine virus, failure to "take" should be very uncommon, for I believe there are but very few persons insusceptible to vaccinia. Mr. Marson says that "with good lymph and the observance of all the proper precautions, an experienced vaccinator should not fail of success in his attempts to vaccinate above once in one hundred and fifty times."

The first important step in the operation is to secure a state of perfect solution of the virus to be used. Carelessness in this particular will often result in failure, not only in the use of humanized crust, but also of dried bovine lymph, as usually obtained on ivory points. I apprehend that a common cause of failure in the use of the latter material is that the points are often applied to the abraded surface of the arm, depending upon the exuded blood to dissolve the dried lymph. Instead of this, if a perfect solution of the virus is secured before the application is made, failure should rarely occur, provided the lymph has been properly collected and has not lost its virtue by age.

As regards the best mode of inserting the lymph, I prefer an ordinary thumb-lancet, with its point decidedly dull. Holding the skin at the place of insertion on the arm tense, I carefully make a few longitudinal incisions, drawing but little blood; then, grasping the arm in its circumference, I stretch apart the small incisions and press the lymph thoroughly into them, either with the lancet or ivory point. By this mode of procedure, and with active virus well dissolved, I very seldom fail to produce in an unprotected person the vaccinal effect. In my judgment, all machines and gimcracks devised especially for performing vaccination are far inferior to the lancet when used with care and skill.

The Course of True Vaccinia. — The regular succession of phenomena that constitute true vaccinia are so familiar to all that I need not stop to describe them minutely, but will be content with directing attention to some of the essential characteristics in its course which I fear are frequently not secured and often undervalued. The careful examination of many thousand vaccine cicatrices on the arms of persons vaccinated in this country and very many European countries fully convinces me that the importance of securing a true Jennerian vesicle is not duly appreciated; and in no country, I am sorry to say, is this want of appreciation more apparent than in the United States. I have been in the habit of carefully examining, for purpose of classification, all vaccine marks of patients admitted into the Municipal Hospital of this city for the past ten years, and the result proves, as my reports from year to year show, that the patients of German birth bear evidence of having had the most thorough, and those of American birth the most careless, vaccination. A perfect vaccine vesicle, pursuing its regular course undisturbed, is sure to leave an indelible scar, presenting certain peculiar characteristics. A cicatrix, therefore, that is far from being typical is evidence that the vesicle has not been of the true Jennerian type, and cannot be so well trusted to afford protection.

In perfectly typical vaccinia, papulation is noticed on the third or fourth day after insertion of the virus, the vesicle begins to form on the fourth or fifth day, the areola should be well marked on the ninth or tenth day, and the crust falls off spontaneously about the twenty-first day. The areola and some slight febrile reaction which accompanies it may, I think, be regarded as essential to true vaccinia. The earlier writers on vaccination, and especially Jenner, went so far as to say that

vaccination unattended by febrile reaction was spurious, and consequently conferred no protection against smallpox, and that in all cases of post-vaccinal variola the alleged vaccination had been of this spurious character. Concerning the correctness of the latter view I think there is much room for doubt, as we shall see farther on.

In order to secure the typical vesicle which has been described, it is necessary that the material used should be of the best quality; and in this connection let us consider *the comparative value of humanized and bovine lymph.*

There is but little difference between the course of vaccinia induced by animal virus and that by virus of recent humanization. Although the former is frequently objected to on the ground that it is dangerously violent in its action on infants, yet I believe the inflammatory action produced by virus of one, two, or three human removes is rather the more intense of the two. But lymph of very long humanization—that which has been transmitted from arm to arm for many years—seems to lose very much of its former vigor. Prior to the introduction of animal lymph into this country by Dr. Henry A. Martin, of Boston, the humanized virus then in general use induced vaccinia of rather shorter duration and of less violence than that which is induced by either the animal or the humanized virus in general use at the present time. It would, I believe, be impossible to find any of the old stock of humanized lymph now in use in this country, it having been entirely supplanted by animal lymph and lymph of recent humanization.

Although the course of vaccinia induced by long-humanized virus is somewhat diminished in its duration and severity, yet I think proof is needed to show that on this account it loses any of its prophylactic power. During the epidemic of smallpox in this city in 1871–72, when vaccination was put to the severest possible test, and when little or no virus was in use but that of long humanization, smallpox did not attack those who had been recently well vaccinated. Furthermore, I have over and over again seen vaccinia induced by this virus, inserted after undoubted infection by the variola contagion, confer complete and absolute protection against the disease; while under the same circumstances I have, I believe, during the present epidemic of smallpox, failed in all primary vaccinations to confer immunity when animal lymph has been used. This is not because vaccinia induced by animal lymph is less protective, but because the course of the process is slower, the areola often being two or three days later in appearing; and as we regard the areola and febrile reaction as evidence of systemic impression, and consequently of protection, this difference in time is often of vital importance to a person vaccinated after exposure.

As showing still further that humanized virus of long descent retains the power of inducing vaccinia of the highest degree of excellence, I refer again to the fact that in no country is vaccination carried on more thoroughly and satisfactorily than in Germany, and in that country humanized virus is generally employed. I believe the usual method of performing vaccination in Germany is by the use of eighth-day lymph, commonly practising what is called arm-to-arm vaccination. This method, when practicable, is doubtless the very best; for fresh eighth-day lymph is very certain to succeed, and can only produce true and genuine vaccination, never spurious results.

Until quite recently the vaccine crust has been the form of virus generally used in this country, and with proper care in its selection as good results may be obtained from this form as from any other. It is, however, of prodigious importance that the crusts should be selected only from healthy infants, and from those in whom the vaccination has been characterized by perfect, typical, undisturbed vesicles. The surprisingly large proportion of imperfect and uncharacteristic cicatrices that have resulted from vaccination in this country clearly indicate that vaccine crusts have not been selected with sufficient care and judgment; and to this negligence, I believe, is due the apparent deterioration of humanized lymph of long descent.

After thirty years of experience in the transmission of humanized lymph, Jenner admitted that it may degenerate from want of due care in the selection of subjects, but spoke of its alleged degeneration by mere lapse of time as a "conjecture he could destroy by facts." My arguments thus far are in full accord with this view of Jenner, but I am willing to go further and say that I believe the same want of care in the selection of subjects from whom lymph is taken would also render it liable to serious

contamination. I can, perhaps, very well illustrate my view of humanized virus by comparing it to a stream of water, which may preserve the level of its source, but cannot rise above it; and, as the stream is liable to be contaminated in its course, we are certain of obtaining the purest water from the spring. And so I believe the original source of all vaccine virus—animal lymph—should have our decided preference, if for no other reason, because of its well-known purity.

The communication of any of the ordinary cutaneous diseases, or even scrofula, by vaccination, may be regarded as doubtful. But, certainly, I cannot be considered as an alarmist when I say that there is a possibility—nay, indeed, real danger—of syphilitic infection through the use of humanized virus. That there are well-authenticated cases of vaccinal syphilis on record cannot be denied by any one who has carefully examined the literature on the subject. It is true the danger is not very great, and fortunately can be almost wholly avoided by care, so that after all we are confronted by no valid objection against vaccination, even though there were no other than humanized virus at our command. I quite agree with Dr. Martin, who has so well said,* "If our dilemma was either to abandon vaccination or to practise it notwithstanding a possibility of transmitting syphilis in the operation, I should not hesitate at all: I should continue vaccination, using every possible care to insure the purity of the virus I made use of. But there is no such dilemma. Vaccination can be done in the best possible manner with virus to which no suspicion of syphilitic contamination can attach." Of course, the virus referred to is bovine. I have already alluded to the fact that to Dr. Martin belongs the credit of the introduction of animal lymph into this country. In 1870 he sent his special agent to Europe for the express purpose of procuring some of the original Beaugency "stock." This agent succeeded in his mission, and returned in September of that year, when Dr. Martin at once began the systematic propagation of animal lymph, and, after great labor, large expenditure, and no little anxiety, succeeded in establishing in this country a "service" of animal vaccination, where lymph can be procured in great abundance, possessing well-tested prophylactic power.

Dr. Martin's success, together with the increasing demand for bovine virus, has induced very many enterprising persons to enter the field as competitors, some of whom doubtless possess the requisite knowledge and ability to carry on the work successfully and to produce virus of undoubted excellence; but there are others, I fear, who, without any fitness for the work, not even realizing its responsible nature, are engaged in propagating and selling so-called "bovine virus," the frequent failures and spurious results from which threaten great injury to the cause of animal vaccination. For some time past I have frequently met with a peculiar form of spurious vaccination, resulting from the use of some of the so-called "reliable bovine virus" now being sold in this city by apothecaries. It consists of a pseudo-vesicle, containing at first a little serum and blood, but soon becoming dense and of a bright-red color, resembling in some respects, when fully formed, a nævus or red raspberry. It is entirely different from any spurious vaccination that I have ever seen from humanized virus, and that it is wholly devoid of prophylactic power I have had abundant opportunity to prove.

For the better protection of citizens against a pestilential disease which is constantly recurring, and which is frequently most destructive to business and commerce, the propagation of animal lymph of perfect quality is of so great importance to the public that it should not be left solely to private enterprise, nor degraded to the level of a commercial trade, but should be under the control of the national or State government, where lymph of undoubtedly good quality could always be obtained free of cost. If this were so, there certainly could be no reasonable objection against the enactment of a law making vaccination compulsory.

The Prophylactic Power of Vaccination.—As regards the protection afforded by vaccination against smallpox, the facts are so numerous that it is difficult to know whence to select examples. Countries in which vaccination is most carefully and systematically performed furnish the strongest proof of its prophylactic power. In Bavaria and Sweden, where the laws regulating vaccination are perhaps the most rigid, variola has ceased to be an infantile

* Transactions of the American Medical Association for 1877.

disease. In Sweden, during the pre-vaccinal period, from 1774 to 1801, the annual average of deaths per million of inhabitants from smallpox was 1973; after vaccination was introduced, but was not obligatory, — 1802 to 1816, — the annual average per million inhabitants was 479; and after vaccination was made compulsory, during the period from 1817 to 1877, the annual average of deaths from smallpox per million of population was only 181. This shows an annual saving of life of 1792 persons out of every million of the population by vaccination, and fully justifies the law making it compulsory.

Mr. Marson's statistics, collected during thirty years of labor at the Smallpox Hospital of London, clearly prove the power of vaccination in modifying smallpox. During this period fifteen thousand cases came under his care, and he found that the unvaccinated died at the rate of thirty-five per cent., while those who had been vaccinated — in infancy, I presume — died at the rate of only six and a half per cent.

Observations made by myself show substantially the same facts. During the last ten years over four thousand cases of smallpox have come under my personal care, and within that period our city has been visited by one of the most malignant and wide-spread epidemics of which we have any record, thus subjecting vaccination to the severest possible test; and the results abundantly sustain its time-honored reputation as a most valuable protective agent. Of the four thousand cases, the unvaccinated have died at the rate of about sixty per cent., while those having been vaccinated in infancy and showing a good cicatrix died at the rate of about ten per cent. Although the death-rates are very large, for reasons which I will not stop to explain, yet the difference in favor of vaccination is certainly very great.

The examples so far given chiefly show the modifying influence of vaccination against smallpox; but vaccination is capable of doing more than that: it will afford perfect protection when recently and thoroughly done. During the past twelve months I have had under my care at the hospital about twelve hundred cases of smallpox, and of this number *only one* had been recently vaccinated. In this case vaccination had been done six months previously, and the cicatrix was of such a character that I was obliged to classify it as "fair." The disease was but slightly modified, if at all, but terminated by recovery. According to my experience, smallpox under such circumstances is so entirely exceptional that I cannot help questioning the genuineness of the vaccination, though the cicatrix was fair. I have taken the pains to write to the physician (residing in the country) who performed the vaccination, inquiring as to the material used, the course of the vaccinia, etc., but have received no reply. As showing still further the efficacy of recent vaccination, I must add that I have more than once seen a recently-vaccinated infant live in an atmosphere charged with variola contagion, and take its usual supply of nourishment from its mother's breast while the mother was suffering from a tolerably severe attack of smallpox, and the infant remain free from infection. Surely proof stronger than this is not needed to convince any intelligent, thinking person of the prophylactic power of vaccination.

Does Vaccination in Infancy Protect through Life?—It was formerly believed by all physicians, and, I think, is yet by very many, that a genuine vaccination in infancy loses none of its protective power throughout the lifetime of the individual. Now, any one who will take the pains to consult the statistics of a smallpox hospital must come to the conclusion that vaccination at first affords complete protection, or nearly so, and that the susceptibility to smallpox gradually returns and progressively increases throughout childhood and adolescence and up to an undetermined period in adult life.

According to my experience, smallpox after thorough vaccination rarely occurs within the first seven or eight years of life, and I think I may add that up to this age death never results, unless from some complication. But from this age up to the period of puberty the number of cases increase, and death is not infrequent. During the period of youth and adolescence the number of cases very greatly increase, and death becomes quite common. Within the period of life from fifteen to thirty-five years of age post-vaccinal smallpox is of exceedingly frequent occurrence, even when the vaccination of infancy has been most thorough and complete. I have frequently seen smallpox, and often of the worst type, in persons presenting most typical vaccine cicatrices, sometimes to

the extent of six or more on each arm. The sooner the profession recognizes the fact that a vaccine cicatrix, however typical, resulting from vaccination in infancy, is not proof of immunity from smallpox throughout life, the better it will be for the protection of the public against the constantly-recurring epidemics of smallpox, because it would lead to a more general practice of revaccination.

What is the Value of Revaccination?—I am convinced that there is a great deal of confusion in the minds of physicians as to what constitutes a successful revaccination. Many believe that because the vesicle and areola do not observe the typical course of true vaccinia the effect is therefore spurious,—merely the result of local irritation,—and possesses no protective value. But why should we not have modified vaccinia, or vaccinoid, after a primary vaccination, as well as modified smallpox, or varioloid? Certainly there is no reason why we should not. And I believe that as varioloid differs in various degrees of severity from true variola, so likewise does vaccinoid differ from true vaccinia. If this is true, we may then conclude that as varioloid gives protection against a second attack of smallpox, so also does vaccinoid exhaust the return of susceptibility to the disease.

Of persons vaccinated in infancy, the proportion in youth or adult life who are susceptible to revaccination to a greater or less extent may be put down, I think, at about seventy-five per cent. Dr. Martin's statistics show that with animal lymph his success "is very exactly seventy-three per cent. at the first attempt. If those cases which fail to be affected at this first trial are twice more attempted, the result is raised to a fraction over eighty per cent." Dr. Warlomont, of Belgium, who has also had extensive experience in the use of animal virus, gives his success in revaccination as sixty-two per cent., resulting, presumably, from the first attempt. Of course the proportion of successful revaccinations in any community will depend largely upon the character of the primary vaccinations. In this country, where vaccination has been so carelessly and imperfectly performed, we should expect to find revaccination successful in a larger proportion of persons than in some other countries where the operation is conducted with greater care.

Revaccination is thought by many to be necessary only where there has been some defect in the primary vaccination; but as it has already been pointed out that smallpox not unfrequently occurs after the most perfect vaccination, it is therefore evident that revaccination should be generally practised, and without regard to the character of the vaccine cicatrix. The age at which revaccination is called for may be inferred from what has already been said concerning the return of susceptibility to smallpox after vaccination in infancy. When there is danger of infection, I should say that it is wise to revaccinate all persons who have been vaccinated longer than five years, though children under seven or eight years of age will rarely be found susceptible to the vaccinal effect; but subsequent to that age, particularly about and after puberty, it is of extreme importance that revaccination should be performed.

That revaccination destroys again the renewed susceptibility to smallpox cannot be doubted, since there is abundant proof in support of this fact to be found wherever it has been carefully and systematically performed.

It has already been shown that in no country is vaccination carried on with greater care and thoroughness than in Germany. Almost every infant is vaccinated within the first year of life, and revaccination is usually performed about the twelfth year. In addition to this, every person entering the army is again vaccinated, and if this fails it is repeated again and again until the vaccinal effect is produced or the surgeon is satisfied that the person is insusceptible to vaccinia. Consequently the German army is well protected against smallpox, as official statistics prove. During the Franco-Prussian war, smallpox prevailed to an alarming extent, and both armies were freely exposed to the contagion; but the loss by death from that disease in the German army was only two hundred and sixty-three men, against twenty-three thousand four hundred and sixty-eight in the French army; and the latter was never much more than one-half the size of the former. In the French army vaccination and revaccination were in no wise compulsory. Of the large accession of recruits, many had never been vaccinated; and, as there was no rule enforcing revaccination, the army was largely unprotected against smallpox. The great

loss of life which the French army sustained by an eminently preventable disease was doubtless owing to the want of proper appreciation of vaccination on the part of the government, as evinced by the paltry sum of money appropriated for vaccine purposes. The same mistake, I fear, is now being repeated by our City Councils, who, in the face of an epidemic of smallpox of more than ordinary magnitude and virulence, have rejected the request of the Board of Health for an appropriation to carry on gratuitous vaccination.

A very striking example of the value of revaccination is given in a recent number of the *British Medical Journal.* Some eight or nine years ago, when smallpox was very prevalent, the surgeon to a large sailing-vessel discovered, when a few days out at sea, that the captain, in flagrant violation of the rules, had secretly conveyed on board the vessel his son suffering from confluent smallpox. The surgeon at once procured all the vaccine lymph that he could, and revaccinated as many of the crew as it sufficed for. Unfortunately, about one-third or one-fourth of the crew remained unvaccinated. "Of the revaccinated—two-thirds or three-fourths of the whole number—*not a single one* had caught the disease; but of those who, from no choice of their own, had remained unvaccinated, *all, or all but one or two,* caught the disease, and three died."

Referring again to Marson's very precise statistics, we find proofs that smallpox is very rare after revaccination. He asserts that but few patients have been admitted into the hospital with smallpox who stated that they had been revaccinated with effect, and that these few had the disease in a very mild form. For over thirty years, during his connection with the hospital, he revaccinated all the nurses and servants, who had not had smallpox, on their coming to live at the hospital, and *not one of them* contracted the disease. At a time, however, when a large number of workmen were employed about the hospital, most of them consented to be revaccinated, but there were a few who declined, and of these two took smallpox, while the former remained perfectly protected.

In the experience of the medical superintendents of the several smallpox hospitals of London, during the period from 1876 to 1879, when 11,412 cases of smallpox occurred among vaccinated persons, *not one case* occurred, within the cognizance of either of the medical superintendents, of any person who had been efficiently vaccinated and successfully revaccinated. Of the nurses and servants employed at the various hospitals, numbering about one thousand, some half-dozen only contracted the disease, and these for some cause or other escaped revaccination before entering the wards.

My own experience entirely agrees with that of the observers just quoted. Only very few persons have been admitted into the hospital under my charge with smallpox who presented evidence of having been successfully revaccinated, and these few have had the disease in so mild a form that death has never occurred among them. During the last ten years, no person entering the hospital in any official capacity, whether as assistant-physician, steward, matron, nurse, or other employé, who had taken the precaution to be revaccinated before entering upon duty, has taken smallpox; but, on the other hand, I have seen a few employés, in whom revaccination was omitted, infected by the disease. With such facts as these before me, I feel warranted in concluding that if vaccination were efficiently performed in infancy, and revaccination successfully accomplished at puberty, we might then be able to realize the fact that Jenner was no mere dreamer when he said that vaccination is *capable* of extirpating smallpox from the earth.

CONVULSIONS DUE TO DEPRESSION OF SPINAL REFLEX-INHIBITORY CENTRES;

WITH SPECIAL REFERENCE TO THE CONVULSIONS OF APOMORPHINE, ATROPINE, STRYCHNINE, AND OTHER POISONS.

BY EDWARD T. REICHERT, M.D.,

Formerly Demonstrator of Experimental Therapeutics and Instructor in Experimental Physiology in the Post-Graduate Course in Medicine, University of Pennsylvania.

IT seems to be a prevalent, if not, indeed, an almost universal, belief that convulsions are invariably the result of a direct or indirect stimulation of the cerebral or spinal centres, or of the nerve-peripheries or muscles; and even in the case of certain drugs that in every other respect are either depressant of nervous structures or do not appreciably affect them, nothing is more common when they cause convulsions than to find it stated that the phenomena were due to a stimulation of certain

portions of the nervous system, but of the cord more especially. My attention was first attracted to the erroneousness of this belief a couple of years ago, while experimenting with apomorphine, when I found a coexistent condition of paralysis and convulsions in animals poisoned with it. These animals, it was observed, would lie as if lifeless, and no reflex action could be elicited by any sort of stimuli; yet suddenly a hyperæsthetic condition would appear, and the slightest touch, or sometimes even a breath of air, would induce most violent tetanic convulsions, which were sometimes so very decided and persistent that the animal would die in a rigid condition and be found in the course of several days dried in an opisthotonous state. Upon testing the action of apomorphine on the motor and sensory nerves, it was found to depress both decidedly, and no evidences of a stimulation of these structures could be discovered; and in a very careful series of experiments on its action on the spinal cord not the least signs of stimulation could be observed, except during this hyperæsthetic condition, and, furthermore, the convulsions occurred in the posterior portion of the body after section of the cord in the upper dorsal region, showing that they were spinal.

These phenomena, in the light of our physiological knowledge, were then inexplicable; for it was seemingly impossible that a drug could act at the same time as a powerful depressor and stimulator of contiguous portions of a structure which is so intimately associated as the motor and sensory portions of the spinal cord; and it was similarly perplexing to understand how it was possible for a drug to cause a state of such profound paralysis, and yet in a little while, and in the midst of it and during a continued absorption of the poison, for a condition of decided stimulation to appear. Hence the utter inability to consistently believe that the paralyzed structures could be so rapidly restored, and a condition of hyperæsthesia exist, or that such a decided nervous depressant of the cord could at the same time possess the power of a stimulant so potent as to cause a hyperæsthetic condition in the midst of profound paralysis, led to the belief that the drug acted on certain hypothetical *spinal reflex-inhibitory centres*, which presumably were similar in their functions to those discovered by Setschenow in the base of the brain, and which had been inferred as existing by recent physiologists, such as Ferrier, Hermann, Bernstein, and especially Foster, who speaks of this function as a resistive power.

Atropine has been found to give rise to similar phenomena, and the action of this drug in the production of the tetanoid symptoms has been carefully studied by Frazer.* This observer found that after the exhibition of a small or rather less than a fatal dose to frogs a slight degree of weakness occurs in the posterior extremities, and motricity becomes gradually more and more impaired, until finally neither respiratory nor voluntary movements occur. Application of various stimuli to the motor and sensory nerves shows that their functions are retained, although in an impaired degree. Some hours afterwards both the afferent and efferent nerves are found to be functionally incapable, although the muscles still retain their irritability. This condition may last for many hours or several days, and the first symptom of a change in animals is noticed in regard to their flaccidity,—the anterior extremities becoming flexed, and their muscles, as well as those of the chest, becoming rigid and decidedly tetanoid. An exalted reflex excitability is now developed, so that a touch of any portion of the skin will increase the spasm in the anterior extremities and chest-muscles, and produce spasmodic movements in the posterior extremities. After a while the same stimulus will induce violent attacks of tetanus, and at a later period the tetanus becomes still more violent, and the duration of the paroxysms is decidedly more prolonged, so that when this convulsant stage is fully developed the animal is in a condition of almost constant spasm. These paroxysms may be elicited at will by simply slightly irritating the skin; but, if frequently repeated, they become shorter in duration and less violent, but reacquire their activity after a proper period of rest.

In this present condition voluntary motion is impaired, although not entirely lost, as the animals are capable of executing some movements.

Frazer now sought to determine the causation of the paralytic-convulsant phenomena, and he therefore first performed a series of experiments in which were

* Transactions of the Royal Society of Edinburgh, 1869, vol. iii. p. 357.

ligated all the blood-vessels going to a single extremity or to the two posterior extremities, when he found that the convulsions occurred in the unpoisoned limbs the same as in the others, and these results he afterwards corroborated by subsequent experiments of the same kind. This, as he points out, clearly indicates that the convulsions cannot be of peripheral origin. Experiments were then performed to show whether they were cerebral or spinal, and, consequently, section of the cord, in a number of animals, was made immediately below the brachial enlargement, with the result of finding that the convulsions occurred in both the anterior and posterior extremities,—thus satisfactorily determining that they were of spinal origin.

Finding, as he believed, that a paralyzant condition coexisted with one of spinal stimulation, he endeavored, by a very novel and ingenious method, to obtain confirmatory evidence by a means which he terms very aptly one of "physiological *synthesis*." With this process he endeavored to imitate the effects of atropine by giving in conjunction a substance that causes paralysis with one that produces spinal stimulation,—the one being methyl-strychnium, which is a paralyzant of the peripheries of the motor nerves;* the other strychnine, which, as is generally supposed, stimulates the motor portions of the spinal cord. The results of these experiments were that he observed phenomena strikingly similar to those in atropine-poisoning, and he therefore believes, after summing up all the evidence deduced from his carefully-conducted researches, that the convulsions are dependent upon a stimulation of the medullæ oblongata and spinalis, and the paralysis, as he previously intimated, to a depression, at least in part, of the efferent nerves; for it is stated that the drug paralyzed the motor nerves, and that the convulsive stage was most marked after the recovery of this paralysis.

If there is a coexistent condition of spinal stimulation and depression of the motor nerves, as above certified, it would be readily explainable how it is that the convulsive stage is put off for such a prolonged period, for it would seem apparent that the reason why impulses reaching a hyperæsthetic cord were not manifest in convulsive moments was simply because the efferent nerves were incapable of performing their function. But a conclusion like this is untenable, since it is invalidated by the results of certain of the above experiments, in which the poison was prevented from going to certain of the extremities; for it is obvious that if the tetanoid stage were postponed because of a paralysis of the motor nerves, the convulsions would occur in these unpoisoned members at once, or at least before they would in other parts of the body: but this is not the case, as has been shown by the more recent researches of Ringer and Murrell,† in which it was found that the convulsions came on in the poisoned legs as soon as in the others. And for a like reason it cannot be due to a depression of the sensory nerves, because irritation of one of these nerves, to which the access of the poison has been prevented, will not give rise to convulsions any earlier in the poisoning than irritation of other portions of the body. It seems, therefore, very clear that both the convulsant and the paralytic phenomena must be of spinal origin, although the depressed condition of both the afferent and efferent nerves would contribute to the latter result; and Ringer and Murrell's experiments fully corroborate the assumption that not only are the convulsions and paralysis due to a spinal action, but that they are both due to depression.

In their researches with this drug, and also with the box (*Buxus sempervirens*) and gelsemium, they have fairly demonstrated that the diminution or even destruction of the "resistive" power of the cord is the sole cause of the tetanus, and that all these poisons are powerful depressors of the reflex function of the spinal cord; and, furthermore, if full doses are given, complete spinal paralysis will follow. Frogs thus poisoned first exhibit great weakness, which gradually deepens, and finally tetanus supervenes. At one period of the poisoning a co-ordinate reflex act or a tetanus can be induced, according to the strength of stimulus,—the weaker stimuli eliciting the former, and the stronger the latter. As the poisoning progresses, the tetanus grows stronger and the normal co-ordinate reflex action weaker, until the animal reaches a condition of almost constant spasm, and finally the tet-

* Journal of Anatomy and Physiology, 1868, vol. ii. p. 224.

† Medico-Chirurgical Transactions, vol. lix., 1876, p. 389; and Journal of Anatomy and Physiology, 1877, p. 517.

anus itself slowly declines, until nothing but a mere quivering can be induced.

In interpreting the meaning of these phenomena they maintain that at the onset of the tetanus no increased excitability of the cord is present, but that there is one of paralysis, because the tetanus is preceded by the paralysis, and as the tetanus grows stronger co-ordinated reflex action grows correspondingly weaker, indicating that the paralysis of the cord is growing greater, because of the inability of the spinal centres longer normally to co-ordinate reflex movements; and as a consequence of this paralysis the impulses received from the peripheries are no longer confined to certain segments of the cord and reflected or transmuted so as to give rise to a normal reflex movement, but can diffuse themselves along the cord, and by thus affecting a multiplicity of motor cells give rise to a series of movements which we understand as a convulsion; and, moreover, that when the convulsions subside the cord is in a paralyzed condition, instead of possessing at least an approach to the normal irritability, as would seem to be the case if the tetanus were due to a temporary stimulation.

Of all established beliefs there appears to be none which is more universal and more firmly rooted than that strychnine is a powerful stimulant of the spinal cord, and that the convulsions it induces are due to this action; yet recent research has given us some good reasons to change our opinion entirely regarding this action, and to assume, as in the case of the drugs previously mentioned, that the tetanus is also one due to depression. 1st. This drug, as has been conclusively determined, exerts a well-marked influence on the vaso-motor centres,* which it so affects as to cause a decided rise in the blood-pressure; and it was further found by Schlesinger that after section of the cord the rise of arterial tension still occurs, and, moreover, that if a sensory nerve was stimulated in animals thus operated upon, a rise of blood-pressure would be produced; and certain of the experiments of Klapp add confirmatory proof to this. It must therefore be obvious that strychnine, unlike any other drug, affects certain spinal vaso-motor centres; and Schlesinger endeavors to explain this eccentric action by assuming that normally a peripheral vaso-motor impulse can only be reflected or transmuted from the central nervous system after it has reached the principal or presiding centres in the medulla oblongata, but that in strychnine-poisoning the medulla spinalis is so affected that these impulses are no longer conveyed to these dominant centres, but diffuse themselves along the cord, as we have seen in the case of afferent impulses in other forms of poisoning, and by affecting a multiplicity of spinal vaso-motor centres give rise to a general vaso-motor constriction. This theory of Schlesinger's very clearly coincides with the one already advanced by Ringer and Murrell and myself, and, like it, presupposes the existence of a normal "resistive" power in the cord, which is either paralyzed or, at least, held in abeyance by the poison. But in this case the resistive power would seem to be a function of special centres, which may be accurately defined as *spinal vaso-inhibitory centres*, whereas the "resistive" power as observed connected with the convulsions is probably a function of still other centres.

2d. If strychnine thus produces a general vaso-motor constriction, it is certain that there must be a marked condition of anæmia of the spinal centres, and, consequently, when we remember that depression of function in all vitalized structures is the sequence of this condition, it is obvious that the tendency here, in so far as the circulation is concerned, is the very opposite to stimulation.

3d. There can be no doubt, when the testimony of Matteucci,† Moreau,‡ Kölliker,§ Vulpian,‖ and others is considered, notwithstanding the more recent and contrary assertion of Klapp (*loc. cit.*), that strychnine causes a paralysis of the motor-nerve trunks, for it has been noted that these structures are always found to be more or less paralyzed, and stimulus applied to the trunk will either elicit but feeble response or utterly fail; and it is, moreover, clearly determined that the nerve becomes functionally incapable, because when a galvanic current is applied to it, and no movement in the muscle evinced,

* Richter, Zeitschrift f. Ration. Med., 1863; Schlesinger, Med. Jahr. A. K. K. Gesellschaft der Aerzte zu Wien, 1874; Klapp, Jour. Nerv. and Mental Dis., October, 1878.

† Traité des Phénom. Électro-Physiolog., 1844.
‡ Comptes-Rendus, Soc. Biol., 1855.
§ Virchow's Archiv, Bd. x., 1856, p. 239.
‖ Arch. de Phys., Nov. 1870, p. 125; Martin-Magron and Buisson, Jour. de la Phys., 1860, vol. iii. p. 340.

muscular irritability is found still to be intact if stimulation is directly applied. It has, however, been disputed whether strychnine acts directly on the nerve-structure to bring about this paralysis, or whether it is due to the strain of excessive use. Kölliker believes that the latter entirely accounts for it, because he found that when the nerve is severed it does not lose its functional activity as soon as the intact nerve; but that this conclusion is only partially correct, and that the drug is a direct motor-nerve poison, we have sufficient proof, especially in the researches of Vulpian (*loc. cit.*) and Martin-Magron and Buisson (*loc. cit.*); for it is found that the divided nerve loses its activity, although not so quickly as the intact nerve, and, furthermore, that when excessive doses are given the animals die without any convulsions whatsoever, and the motor nerves are found paralyzed.

In the light of our present physiological knowledge it seems incredible that a poison acting so decidedly as a paralyzant to the motor nerves would act consentaneously as even a more decided stimulant on a continuous structure, such as the motor centres of the spinal cord; and, certainly, if such an action were conclusively proven to be the case, we should have a physiological anomaly so curious as to be beyond precedent. But the keenness of the experimenter has been unable to differentiate to such an extent the phenomena which result from the workings of so intricate and complex a mechanism as the spinal cord as to say decidedly from whence and how all motor impulses originate, and as a consequence he is frequently obliged to assume that a given event is the result of a probable action on a specific portion of the cord; and as an illustration of this fact we have the present drug, which has been assumed to cause convulsions by stimulating the motor centres; but which, when we consider the depressed motor nerves, the apparent loss of a resistive power by which vaso-motor impulses play at will along the cord, and the anæmic condition of this structure and consequent tendency to depressed function, are more probably the result of a depression of the "resistive" power of the cord.

It seems as though we could add indirect though corroborative proof to this by alluding to the results of experiments with the ethyl- and methyl-strychnine compounds. Brown* has shown that these compounds do not induce convulsions, but act like curare, and cause a profound paralysis of the motor-nerve endings. Hence it is believed by some that this new combination has so altered the action of the strychnine on the economy as to destroy its convulsant effects by converting it into a paralyzant instead of a stimulant; but when we consider the effect of strychnine itself on the motor nerves, and assume that it acts as a depressant to the "resistive" power of the cord, it seems evident, as Ringer and Murrell suggest, that when the strychnine is converted into an ethyl-compound its physiological action is not reversed, but only its chemical affinities so modified it that it affects the motor nerves relatively more powerfully and the spinal cord relatively less. As a consequence, the reason why convulsions do not occur is either because of the feebleness of its spinal action or because the paralysis of the motor-nerve peripheries becomes so rapidly advanced that they are unable to transmit motor impulses when the cord has reached the convulsant stage, or both.

Curare and certain other well-marked spinal depressants are sometimes observed to cause convulsions, which are usually preceded by paresis, more or less marked. Considering the above testimony, it is readily conceivable how any spinal depressant may give rise to convulsions; but if it is assumed that these phenomena are due to stimulation, we have a formidable difficulty to contend with in any attempt to explain how a drug can paralyze the cord and in the midst of it act as a stimulant sufficiently powerful to induce convulsions. The assumption of the existence of this "resistive" power of the cord—which I think can be better expressed by designating the portions of the cord in which this resistive power resides as the *spinal reflex-inhibitory centres*—makes an explanation of the *modus operandi* of causation of convulsions by spinal depressants easy, and effectually answers what has been for a long time a very perplexing question.

Strychnine, however, gives rise to convulsions at once, while the other drugs first induce a condition of paralysis. But Ringer and Murrell, in their masterly re-

* Trans. Royal Society of Edinburgh, xxv., part i. p. 151; and Journal of Anatomy and Physiology, 1868, vol. ii. p. 224.

searches, have given us an explanation of this in the fact that the difference in these results is probably dependent upon the degree to which a given drug affects reflex action; for, while some of them diminish it very materially, others, again, affect it little or not at all. They therefore assume that in strychnine-poisoning reflex action is unimpaired, while the resistive power alone is annulled; but in atropine-, box-, and gelsemium-poisoning reflex action is affected also, and, as a consequence, modifies the convulsant phenomena, both in the time of their occurrence and in their violence. In other words, the relation existing between the degree of the effect on reflex action and the resistive power of the cord determines the time and degree of the paralysis (if this is present), the early or late appearance of the convulsions, as well as the degree of their violence.

MEMBRANOUS CROUP TREATED BY PILOCARPIN—CHANGE IN THE COLOR OF THE HAIR FROM THE USE OF PILOCARPIN.

BY D. W. PRENTISS, A.M., M.D.,
Professor of Materia Medica and Therapeutics in the National Medical College, Washington, D.C.

MUCH attention has been recently attracted to the use of pilocarpin in diphtheria by the report of its favorable action in that disease by Dr. George Guttman, of Cronstadt.

Dr. Guttman obtained very favorable results in the treatment of a large number of cases. His observation was to the effect, not that the drug exerted any specific action over the disease, but that it apparently loosened and softened the false membrane by its action upon the secretion of the mucous membrane, so that the false membrane was more easily expelled. His report was followed by one from Lax, who treated ten cases of diphtheria by pilocarpin exclusively, all of which recovered. Six of these were very severe, and in two death was expected nightly. Still more recently, Dr. Ed. C. Wendt, of New York, reports three cases (*Medical Record*, April 9, 1881) in which, after other remedies had failed, pilocarpin was given and recovery followed. On the other hand, however, Dr. Neumeister has published an account of twenty-eight cases of diphtheria treated by pilocarpin with rather unfavorable results. Five of the cases were adults, and the others children. The adults seemed to be influenced favorably; but in the cases of the children thirteen out of the twenty-three died, and in eight bad effects of the pilocarpin were observed. Neumeister's conclusion is that pilocarpin is a dangerous remedy with children, and that its value in diphtheria is not sufficient to justify its use. In a disease so fatal as diphtheria,—especially that form known as *membranous croup*,—any remedy which promises to avert the usual distressing termination is welcomed with avidity by the profession. In the question under consideration the preponderance of evidence seems to be in favor of pilocarpin. The success of Guttman, Lax, and Wendt has been much more marked than that of Neumeister; nor have they observed any of the unfavorable effects claimed by Neumeister to follow its use. Undoubtedly pilocarpin is a powerful drug and capable of doing mischief, but my observation coincides with that of the first-named observers,—that its effects can be regulated and controlled.

The importance of the subject has influenced me to report the following case, in the hope that it may be an additional inducement to others to give it a trial.

Chas. S., aged 14 months,—a healthy, well-developed infant, of German parentage,—was fretful and complaining for several days previous to June 9, 1881; voice and cough hoarse. June 9 the voice was lost.

June 10, P.M.—First saw the patient. He was lying on the bed, restless, but objected to being disturbed; breathing loudly stridulous, voice entirely suppressed. On examination of the throat, the entire fauces were found covered with an ashy-white false membrane. Very little febrile disturbance. Prescribed a mixture of chlorate of potassium and tincture of chloride of iron internally, and a one-per-cent. solution of carbolic acid to be applied locally; also, in case the dyspnœa should increase, an emetic of turpeth mineral.

June 11, A.M.—Patient worse; dyspnœa and restlessness have increased; the emetic had not been administered; gave a dose (25 centigrams) while I was at the house. It caused free vomiting, with expulsion of several pieces of false membrane, and was followed by great prostration. So much difficulty was encountered in mopping the throat that it was discontinued, as was also the iron mixture. The following prescription was ordered:

℞ Pilocarpin. hydrochlor., 0.02 gram;
Sacchari lacti, 2 grams.
Fiat in chart. no. x.
S.—One every hour.

Directions to repeat the turpeth mineral if necessary. Milk punch *ad libitum*.

June 11, P.M.—Condition about the same as in the morning.

June 12, A.M.—Condition no worse. Emetic of turpeth mineral during night. Dose of *pilocarpin* doubled.

June 12, P.M.—Patient better; has slept most of the day; stridulous breathing less marked; more cough, and cough looser; sweating and salivation very free; dose of pilocarpin reduced to the original amount.

June 13, A.M.—Still better; passed a comfortable night, sleeping all night; stridulous breathing gone; false membrane has disappeared from the fauces.

June 13, P.M.—Still improving; cough troublesome, but loose; aphonia still present.

June 14, A.M.—Still improving; slight return of the voice in crying.

June 15, A.M.—All the symptoms decidedly better; appetite returning.

June 18.—Since last record the improvement has been steadily progressive. No longer any sign of false membrane, and the voice has returned. The bowels, however, are very loose. Pilocarpin discontinued, and a diarrhœa mixture ordered.

When I first saw this patient I considered the prognosis very unfavorable,—I might say almost hopeless. The child was in that state so familiar to us in advanced membranous croup. The result can hardly be attributed to the two doses of turpeth mineral taken, although portions of false membrane were thus thrown out. In numbers of other cases I have used this emetic, and never but once with favorable result. In the successful case referred to, the diphtheria had commenced in the fauces and extended to the air-passages. A complete cast of the trachea was twice expelled under the action of the yellow sulphuret of mercury. In the case now under consideration this did not occur. The improvement followed the administration of the pilocarpin, and was most marked when the action of that drug upon the system became decided. Its mode of action seemed to be by loosening and softening the false membrane, so that it was easily expelled by the act of coughing. The salivation and sweating produced did not distress the little patient, and were easily controlled. It caused a marked tendency to sleep.

A word in regard to the administration of jaborandi.

The most economical as well as the least elegant form is that of infusion. This, however, in dose of from three to six grams of the leaves is sufficiently certain in its effects. The fluid extract of jaborandi is a more concentrated form of the drug, and, if freshly prepared, is reliable in doses of four grams. The solid extract may also be used in cases where it is desirable to give the medicine in pill form. But undoubtedly the most elegant as well as the most reliable preparation is the alkaloid pilocarpin, either as the hydrochlorate or the nitrate. Pilocarpin is the active principle. In using the leaves, the activity or efficient dose will depend on the proportion of the alkaloid contained, and this varies with different specimens. The best jaborandi comes from Pernambuco, Brazil, and is the product of the *Pilocarpus pinnatifolius*. Since the development of an increased demand for jaborandi, an inferior article has been put upon the market from the Argentine Republic, consisting of the leaves of another species of pilocarpus, which contain a smaller proportion of the alkaloid. The same uncertainty of strength would apply to the fluid and solid extracts. Their strength in pilocarpin would depend upon the quality of the leaves from which they are made.

In many cases where we are called upon to administer this drug the stomach is irritable and will not retain medicine. The pilocarpin salt is soluble and entirely unirritating when given hypodermically, and in the dose of one centigram (one-sixth of a grain) acts promptly, producing full diaphoresis and salivation. For hypodermic use it is best to order it in powders,—one centigram each,—and dissolve in water at the time of using, repeating the dose hourly until the desired effect is obtained. As a general rule, solutions of all alkaloids are objectionable, for the reason that they are readily decomposed. In treating young children it is often difficult, and sometimes impossible, to administer the infusion of jaborandi, or even the fluid extract. The pilocarpin may be given in dose of from one to four milligrams (one-sixtieth to one-fifteenth of a grain), in powder with sugar, and is pleasant to the taste. I can, however, see no advantage in the combination offered by Dr. Guttman,—with pepsin and hydrochloric acid. It is best, unless there be good reason to the contrary, to keep prescriptions simple, especially where we desire to observe the action of a new remedy. For this reason I think the prescrip-

tion given above preferable to that of Dr. Guttman.

CHANGE IN THE COLOR OF THE HAIR.

In a recent article (*Philadelphia Medical Times*, July 2, 1881) I reported a case in which a remarkable change occurred in the color of the hair of a patient while under treatment by pilocarpin. Having this in view, I took a specimen of the child's hair in the present case, in order to compare with the color later and see if any change took place. The case seemed at first so hopeless that the specimen was not taken until June 17, when the pilocarpin had already been administered for six days. The second sample was cut from the child's head on June 27, ten days later, care being taken to select a place corresponding to that from which the first sample was taken. The difference between the color of the two is not great, but is sufficiently marked to be distinct. The first specimen is a light brownish-yellow, and the second is a shade darker. I did not anticipate, in this case, any change in the color of the hair, because I did not think the pilocarpin had been taken long enough. The specimens, however, show a decided change, and I record it for what it is worth.

COMPOUND DISLOCATION OF ANKLE WITH FRACTURE OF MALLEOLI—EXCISION OF JOINT—RECOVERY, WITH USEFUL LIMB.

BY H. R. WHARTON, M.D.,

Assistant to Professor of Clinical Surgery, University of Pennsylvania.

ON the evening of October 4, 1880, I was requested by Prof. Ashhurst to see, for him, the following case in his ward in the University Hospital.

J. M., aged 15 years, while playing on some iron railings, fell, his left foot being fixed, and sustained a severe injury of the ankle-joint.

On examination of the injured part I found a complete dislocation of the tibia and fibula to the fibular side, the bones protruding for two inches through a transverse wound a short distance above the position of the external malleolus; the internal malleolus was entirely detached from the tibia, and remained in contact with the internal lateral ligament of the ankle-joint; the external malleolus was fractured, and only adherent to the fibula by periosteum. The foot was twisted to the inner side; the surface of the astragulus articulating with the tibia was uninjured, and exposed in the wound. The color and temperature of the foot were good, and on examination the anterior and posterior tibial arteries were found to be uninjured.



In an injury of the ankle-joint of such severity, three methods of treatment would naturally suggest themselves: first, reducing the dislocation, having detached the loose fragments of bone; second, amputation of the limb; third, excision, complete or partial, of the bones.



The first method of treatment, I thought, might be set aside by the condition of the parts; compound dislocation with fracture, with the consequent dangers from tension after reduction. The second, amputation, I thought unquestionably the safest mode of treatment as regarded life, but it would have had the disadvantage of leaving the patient without a useful limb. The third method, excision, seemed to me, under the circumstances, the best, giving the patient a chance for a useful limb, and diminishing the dangers which follow the reduction of compound dislocations without excision.

The age of the patient and the uninjured condition of the arteries were important elements in favor of excision over amputation. The patient was etherized, when, having slightly enlarged the wound

downward, I divided the periosteum and separated it from the bones, and with a chain-saw removed one and a half inches of the tibia and fibula, leaving a small portion of the tibio-fibular articulation. The detached internal malleolus was now removed from the internal lateral ligament, to which it was adherent, and the foot brought into position without difficulty. The astragulus was not excised, as it was uninjured, and there seemed abundant room for drainage and relief of tension. The sawn ends of the bone were rounded with forceps and a drainage-tube introduced into the wound, which was closed with silver wire sutures. The wound was dressed with a laudanum dressing, and the limb placed on a bracketed wire splint, so that subsequent dressings could be accomplished without disturbing the parts.

The case after operation was under Prof. Ashhurst's care; the wound healed by adhesion, except at the lower portion, where the drainage-tube protruded. The tube was removed about the tenth day, and the wound remained open and discharged slightly for several weeks. Several abscesses appeared on the fibular side of the foot, which were opened and continued to discharge for some weeks. The leg was kept on the wire splint for six weeks, by which time all sinuses left by the abscesses had healed. It was now removed from the splint and a plaster-of-Paris dressing applied, which was retained for four weeks.

On examining the parts after removing the plaster dressing, three-fourths of an inch shortening was found to exist in the injured limb; the configuration of the joint was not much altered, there having apparently been a production of new bone near the site of the malleoli; the patient also had a fair amount of motion in the ankle-joint.

The patient was discharged from the hospital in January, 1881, walking with a slight limp, and a month later was seen in excellent health, wearing a high-heeled shoe, but walking without any lameness whatever.

1407 Locust Street.

The Last of Chian Turpentine.—Mr. Hulke (*Lancet*, June 25) reports a number of cases treated by Chian turpentine in the cancer ward of the Middlesex Hospital, none of which were benefited in the least.

TRANSLATIONS.

Temperature of Contracting Muscles of Mammals.—A summary of Dr. R. Meade Smith's interesting article on this subject (*Du-Bois Reymond's Archiv*, May, 1881), is as follows. The subject of investigation is divided into four sections:

I. The changes in temperature of the venous blood coming from contracting muscles.

II. The temperature of normal contracting muscle.

III. The share of the blood-current in the production of an increased temperature in tetanus.

IV. Heat-production in muscles with artificial circulation.

I.—The Changes in Temperature of the Venous Blood coming from Contracting Muscles.

In the first ten or fifteen seconds of a strong irritation of the crural nerve, the temperature may remain stationary or even sink from the initial arrest of the blood-current in contraction, then the temperature commences to rise rapidly, and in the first two minutes attains nearly or quite its maximum height. When the tetanus lasts longer than two minutes the temperature falls or may rise a little higher, but extremely slowly. At the end of the tetanus the temperature may continue to rise, even when the blood coming from the relaxed muscle is warmer than that flowing to it. This may be due either to a continued heat-production in relaxed muscle or to the fact that since the blood flows more slowly it has longer time to be heated up to the temperature of the muscle. In all instances the temperature of the venous blood reaches very slowly its height before the tetanus. The venous blood may become as much as 0.6° C. warmer than the arterial during a tetanus, and this, too, independently of the difference originally between the two temperatures: *e.g.*, when a second tetanus follows the first before the heating effects of the first have passed off, and while the venous blood is still warmer than the arterial, we have still an increase of temperature.

By estimating the quantity of blood flowing through the muscles in tetanus we have determined that at least as much as 25 to 75 heat units are removed by the venous blood from the muscle.

II.—The Temperature of the Normal Contracting Muscle.

The muscle mass at rest is usually 0.5° C. cooler than the artery, from loss of heat through the surface. The entire muscle is not of a uniform temperature, although in alterations of temperature all portions of the muscle are similarly and simultaneously affected.

a. The temperature of the muscle in different degrees of stretching.—The maximum temperature and the rapidity with which it is attained are, in the living, warm-blooded muscle, entirely independent of the amount of work done, thus contradicting the statement of Fick for the frog's muscle.

b. Relationship between changes of shape and temperature according to length and strength of irritation.—The changes of shape and of temperature cannot be said to be closely connected, since when we have the greatest contraction the (heat-production) increase of temperature may be slighter than in a weaker contraction: the same holds true as to actual heat-production. We may say that a stronger contracted muscle loses more heat. The muscle and venous temperature are invariably affected in the same manner. Therefore the excess of venous over the arterial temperature corresponds to the higher temperature of the muscle.

The temperature, and equally probably the development of heat, increases with the irritation, whether a corresponding increase occurs in the degree of contraction or not: so the generally admitted theory that the change of shape of the muscle and the development of heat are only different expressions of the same tissue-change, can no longer be admitted. We are not, however, thereby compelled to suppose the existence of two entirely distinct processes brought about by different nerves.

Ordinarily the muscle loses its heat-producing power before it loses its contractility. We may have a series of contractions of equal extent with a constantly diminishing heat-production in each.

"Contracture" differs from tetanus in the fact that in the former we have a rapid fall of temperature instead of the rise which occurs in the latter.

We may have an irritation strong enough to produce a decided contraction, and yet not strong enough to produce an elevation of temperature, while the results with increasing irritations coincide with those of Heidenhain as to the frog's muscle, that the development of heat grows more rapidly with an increasing irritation than the contraction.

c. Relationship between the maximal temperature of the fresh and fatigued muscle.—The experiments under this section show how variously a muscle will behave as to heat-production after prolonged exertion. They go to show what a very slight connection there is between the two results of nerve-irritation, viz., the contraction and the heat-production, contradicting Heidenhain as to the fixed relation between heat-production and fatigue.

d. The after-working of the irritation on the actual temperature.—Heat-production may continue in a relaxed muscle, though this is not the rule.

III.—The Share of the Blood-Current in the Production of an Increased Temperature in Tetanus.

a. Comparison of the temperature of tetanized muscle in the bloodless and normal condition.—In the bloodless condition only a slight share of the chemical change could be attributed to the oxygen of the blood remaining in the vessels, as time was allowed for it to become deoxygenated. During a tetanus which does not last more than two minutes in a muscle deprived of its circulation, we can have as great an increase as occurs in the normal muscle. There is, however, a slighter degree of actual heat-production. After the second minute of tetanus the increase of temperature in the bloodless muscle becomes a fall, and by the fourth minute all the increase of heat may be lost, the capability of developing heat being lost from the modification of some part of the irritable apparatus.

The influence of the continually renewed blood on the heat-producing tissue-change is positively proved by the length of time the process continues in normal muscle compared with those removed from the circulation. When the blood-stream is closed in the middle of a tetanus there is a sudden fall of temperature, and again a rise when it is reopened. If, however, at the time of closure the irritation is increased, we have a rise instead of a fall. The capability of executing work is influenced by the closure of the blood-stream in the same way as the temperature.

b. The action of curare on muscle temper-

ature.—Here we can produce contraction with acceleration of the circulation. There is here even in rest a constant upward tendency of the thermometer: the muscle may become warmer than the artery. This occurs when the circulation is mechanically retarded through the muscles, while each new injection of curare causes a fall of temperature. On direct irritation of the muscle we have a rapid increase of temperature, which may last several minutes after the tetanus, as seen in the thermometer in the muscle. The increase is not so great or so rapid as when the nerve is irritated without curare. The thermometer in the vein after the tetanus shows a rapid fall. When the nerve is irritated in curare experiments we may have a fall of temperature by action on the vaso-constrictors.

c. On the cooling influence of the blood after reduction of the pressure by bleeding or section of the cervical cord.—After bleeding we have an increase of arterial temperature and an increasing inability of the muscle to contract through a long period: nevertheless we still have a decided increase of temperature in the venous blood during a tetanus, as was also the case after section of the cervical spinal cord.

IV.—Artificial Circulation through the Muscle.

Here a rise of 0.16° C., was noted even when the arterial fluid was 0.76° cooler than the muscle.

This fact opens a very promising future for direct calorimetric studies on contracting muscles, as their irritability may be preserved for several hours.

Malarial Poisoning in Young Children.—In a clinical lecture on this subject (*Revue de Thérap.*, 1881, p. 260) Dr. Jules Simon says that while intermittent fever, especially of the severe type, is often difficult of diagnosis in the adult, it is much more so in the infant, both because its signs are different and because these may vary with the age. In the infant under two years of age the malarial poison does not show itself with the same regularity as in the adult. The quotidian type is that oftenest observed, and frequently by day as well as by night. In the latter case the symptoms are the same as those of ordinary fever from sore throat or digestive trouble. There are certain signs, however, by which it may be recognized. At whatever moment the attack begins, it is sudden. The cold stage comes on so quickly and is of such short duration that it can scarcely be recognized unless one is prepared for it; the extremities are like marble, the pulp of the fingers shrivelled, the matrix of the nail blue, the eyes sunken, the cheeks and the end of the nose pale. Then follows the feverish stage for an hour or two, terminating by a short stadium of perspiration, affecting particularly the neck and chest. When the attack comes on at night, the child wakes suddenly, crying at an unaccustomed hour, and by the time he can be examined is already in the hot stage. For this reason it is easy to mistake the infant's condition for some commencing eruptive fever, dyspepsia, dentition, etc. The tongue, however, will give some indication if examined, for, if the trouble is malarial, a semi-lunar patch of rawness may be observed about its edge.

In the irregular forms the child, without actually having any fever, may be forlorn and refuse to nurse at one time of the day, taking the breast again at a later period. These infants cry if pressed upon over the head, eyes, or ears, because they suffer with multiple neuralgia. At other times only a slight sweating is noticed, or a little diarrhœa. Sometimes quinine must be given in doubtful cases before the nature of the malady can be made out.

Infants at the breast are not free from danger regarding the chronic poisoning of malaria, which develops a cachexia from which many succumb. The child's face assumes a waxy hue, he becomes thin, his legs and face become puffed, the spleen is hypertrophied, sometimes to a considerable degree, and death often occurs in syncope, convulsions, or coma. If the infant survives, a treatment extending over years may be required to restore him to perfect health. The pernicious forms are similar to those observed in adults.

In children from two to six years of age, the attacks are more marked, if possible; they are tertian or double tertian, and are more apt to occur during the day than during the night. They may simulate typhoid fever or meningitis. Simon also mentions one curious case presenting torticollis, apparently dependent upon Pott's disease of the spine, only it returned daily at the same hour, and disappeared under the use of quinine. At other times persistent bronchitis may be observed, rebel-

lious to all medication, and only yielding at last to quinine. Now and then rachialgia of a periodic character is observed, with congestion of the meninges, causing atrocious sufferings, in the form of fulgurating pains in the limbs, with contraction.

The prognosis is serious, except in light cases. Sometimes quinine has to be given for years. The pernicious form is always fatal.

Sulphate of quinia is of course the treatment in all these cases. Up to two years of age ¾ grain to 2¼ grains may be given in little granules of ⅙ grain each, which the infant can easily be made to swallow. Enemata containing three to four grains may be administered, or the same amount by inunction. In the pernicious forms the following solution is to be given in the space of an hour:

℞ Quiniæ sulphat., gr. iij ad ivss;
Tr. opii (Sydenham.), gt. j;
Sol. sacch. alb., gtt. c.

In older children, from two to six years, the dose should be three to four and a half grains in sweetened glycerin with syrup of tartaric acid, and when the attacks are violent three-quarters of a grain may be given every hour until toxic effects are produced. If the child refuses to take the solution with glycerin, the quinine may be given in coffee or in one-sixth-grain pills in some confection.

In the chronic malarial poisoning of infants at the breast, change of air, with the administration of iron and arsenic to the nurse, may be prescribed. Above two years the treatment must vary with the case. Sometimes coffee may be given, also maceration of quinia; at other times arsenic, phosphate of lime, hydrotherapeutics, sea-bathing. Purgative and all other enfeebling treatment must be avoided.

Late Hereditary Syphilis.—At a recent meeting of the Société de Chirurgie (*La France Médicale*, 1881, p. 675) Dr. Lannelongue remarked on the osseous troubles which show themselves during the later stages of hereditary syphilis, and which, according to their origin, manifest themselves as subacute inflammation of the bone and as periostitis. The enlargement of the bone assumes the form of periostoses and hyperostoses, and it may result in augmentation of volume and also of length. The seat of the hyperostoses is the diaphyseal region in the neighborhood of the apophyses,—a point where nutritive activity is at its highest. From this region this neoplastic action is propagated along the diaphyses, following a central or peripheric course. It may include as much as ten to fifteen centimetres of the length of a long bone. The ultimate evolution of these hyperostoses gives rise occasionally, as in the adult, to abscesses and exfoliation of bone. It leaves behind it in every case singular and permanent deformities, which treatment is powerless to cure. These deformities present a peculiar physiognomy easy to recognize. The bones most frequently affected are the tibia, ulna, radius, femur, and humerus. The mixed treatment, thoroughly carried out, cures these cases when early seen. When the deformity has actually occurred, only the prevention of further extension can be hoped for.

A New Exhilarant.—Dr. Luton, of Rheims (*Bull. Gén. de Thérap.*, vol. c., 1881, p. 254), calls attention to the curious exhilarant properties of a mixture of tincture of ergot with phosphate of sodium, which he recently discovered by accident. The effects of this mixture can best be compared to those of nitrous oxide gas, but are of a more permanent character, lasting from an hour or two to several days. Patients show signs of hilarious but slight intoxication. Saturnine and melancholy individuals laugh, joke, and display the utmost gayety. Dr. Luton considers the medicine to possess a certain value in cases accompanied by melancholia, in the neurotic algidity of hysterical persons, and in the anæmia of chlorotics. A convenient formula is the following:

℞ Tincturæ ergotæ, ℥j ℈j;
Sol. sodii phosphat. (10 per cent.), f℥iv.

Mix in a quarter of a tumbler of sweetened water, and take at one dose before eating.

Locomotor Ataxia.—Prof. Pitres, in a lecture on this subject (*Revue de Thérap.*), formulates the following statements. 1. Sclerosis of the posterior columns always begins with sensory disturbances. 2. The painful symptoms almost always present a peculiar aspect, which allows an early diagnosis to be arrived at (their fulgurant, intermittent, irregular occurrence). 3. The pains may be located in any part of the body (limbs, face, viscera, vertebral column). 4. They precede the motor disturbances by months or years. 5. They may for an indefinite period constitute the only symptoms of ataxia, which in this case deserves the designation *tabes*.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, AUGUST 13, 1881.

EDITORIAL.

EYESIGHT IN THE PUBLIC SCHOOLS OF PHILADELPHIA.

THE report of the committee of the County Medical Society on examination of the eyes of children in the public schools of Philadelphia, which appeared in our last issue, contains facts and conclusions so interesting and important as to merit the careful attention, not only of physicians, but also of the intelligent public generally. Too little importance has heretofore been attached to the conditions of study in relation to the preservation of eyesight, and, although the attention of parents and instructors has in recent years been drawn more and more to the subject, yet, from the necessity of the case, this interest has been that of inquiring ignorance asking for that guidance which it is clearly the duty of the medical profession to furnish to the community at large.

The desired information has now been at least to some extent obtained, and, although the investigations of Dr. Risley's committee were not extended over as great a number of cases as might have been desired, yet, from the results of examination of some twenty-four hundred eyes in children attending all grades of the public schools, a fair estimate may be made of the conditions of eyesight prevalent among the school-children of Philadelphia.

The conclusions drawn are to some degree unexpected. Thus, for example, it has been generally thought that improperly lighted school-rooms were perhaps the chief factor in the production of weak eyes; and more and more attention is being paid to this subject by the school authorities. But, as Dr. Risley points out, other causes are also at work, among which are the habit of reading and study carried on at home to an excessive degree and under more or less unfavorable and injurious conditions; the custom of sending children to school at too early an age (which the investigations of the committee show to directly favor the occurrence of defective vision), and chiefly the pre-existence of more or less abnormal eyesight. To this, perhaps, may be added the use of books improperly printed on poor paper and with defective type. While we believe the books in use in our schools are usually of the proper kind in this respect, yet the prevalence and popularity of those cheap but abominably printed editions of standard authors must unquestionably exert a pernicious influence on the eyesight.

The conclusions of the committee—to the careful perusal of whose report we urge all medical men who may be personally or officially connected with the mental training of our citizens of the future—point directly to the following measures which should be carried out if the subject of eyesight in the public schools is to receive the attention it demands.

1. The proper lighting and seating of our schools should receive the earliest attention, with the view of remedying well-known existent defects and preventing for the future those errors in architectural construction which exist in present school-buildings.

2. Children should not be permitted to enter school at a too early age.

3. *A careful examination should be made of the eyes of all children on entering upon school-life, and such precautions should be taken as to correct or prevent injury to the eyes from study.*

4. Parents should be warned of the harm and injury which may result from over-study and especially from excessive reading at home, and they should also be told to take heed to the conditions of light

and position occupied by children during their hours of reading and study.

It is the duty of the medical profession to urge these views on the community at large as occasion offers, with the hope of influencing public opinion.

CORRESPONDENCE.

LONDON LETTER.

SO far as unwonted heat will permit, we are all in expectation, and the bustle expectation gives rise to, about the forthcoming International Medical Congress,—getting ready, but impeded by prostrating tropical heat. It is expected to be a monster affair, and units are coming from all corners of the earth, till aggregated units will constitute hundreds. So far the arrangements seem to be well laid out; but what the actual accomplished results will be, time will tell. Of course, already there are heart-burnings and envyings: somebody is more prominent than he ought to be, while somebody else is unduly thrown into the background who feels that he is an ornament to the profession who ought to be made the most of. It is rather humiliating to think how small humanity can be at times, how little matters can perturb the mental processes of even educated men. Granting a prominent position can be secured, how does the aspirant know that this is not going to be a misfortune rather than an advantage, if the execution is not thorough? This anxiety for prominence amidst the mediocrities is one of the curious features of human middlingness,—that it has not the wit to remain in obscurity, but moves its little macrocosm to place it where its incapacity will be only all the more conspicuous. Of course there are also a number of most competent individuals engaged in it, who will "pull the thing through" despite incapable colleagues. The promise of attendance by foreign celebrities is most encouraging for a capital meeting. With Sir William Jenner, K.C.B., at the head of English medicine, the home section will hold its own successfully against all comers. If our capricious climate will only just be accommodating, I think we will get through the ordeal fairly successfully.

In medical circles here great interest is felt in the progress of President Garfield towards convalescence after his most serious accident. The prevailing impression is that the medical part of the matter has been conducted with consummate skill, reflecting the very highest credit upon American medicine and surgery. Of course all recognize the admirable constitution and indomitable courage of the patient, which are of so great moment in such an injury, and without which all therapeutic measures would be of little or no avail. The absence of high fever and of considerable peritonitis is a feature of the case as unusual as it is interesting. The published temperatures in our papers have been curious instances of error, which must occasion great perplexity in the minds of those who are more interested in than familiar with medical details. For instance, one day when the wounded man was reported to be doing well, the temperature was given as 106.6-10°, which certainly was a mistake of the printer or the telegrapher; but a day or two later, when further satisfactory progress was announced, the temperature was stated to be 109.9°. Now, this last is a temperature which is regarded as incompatible with life, though one or two isolated cases are on record where such a temperature has been recovered from. But as to the ordinary experience of humanity, the first temperature indicates a very grave condition, while the second would necessitate the most active steps being taken to secure the completion of that voluntary offering intended to provide for his wife and children if the worst should be realized. Of course no material harm is done to anybody by such careless errors, but there is enough incorrect information about, without adding to it. Much interest, too, is felt in the means which have been adopted to lower the temperature of the room during this terrific heat-wave which we all are experiencing. Such measures have an interest for every medical man, and will be made an addition to the armamentarium of every practitioner in hot weather. The difference of a degree or two is of moment in critical cases, and every one who has had personal experience of a temperature over 105° Fahr. knows well enough the significance of that degree or two as regards the subjective sensations. The whole case, indeed, is most instructive. One was taught that wounds of the abdomen were almost certainly fatal; and yet here is a patient scarcely feverish, and free from any serious peritonitis, who carries in his abdomen the comparatively large bullet of a "California bulldozer" fired at a short distance. As said before, the whole case reflects much credit upon American medicine; and the lesson ought to bear lasting fruit, even if no heroic medicinal measures were adopted. The moral control of the case has been, of course, a very important matter; for if a patient seriously ill is surrounded by a number of persons, all of whom speak to him and treat him as if he is dying—well, he very likely will die. This is a matter not nearly sufficiently estimated, and many a patient owes his life to the disposition of his medical attendant. It is not merely enough for a doctor to visit his patient and take careful note of how he is; something more is desirable; viz., he should lend the patient a little of his

own cheerfulness. His advent should be looked for, and he should be welcomed as bringing good fortune with him. There never was a consultant in large and successful practice who was not of a cheerful disposition. For is not the indirect encouragement given to a patient by a cheerful demeanor and an inspiriting tone of voice often one of the most vitally important factors of the management of the case? On the other hand, certain relatives are death to the sick. If Peter Featherstone, in "Middlemarch," had had an ailment which permitted of recovery, or even of a temporary rally, he would have had no chance with his brother Solomon, or his sister, Mrs. Waule, to say nothing of his nephew, young Cranch. With three such enlivening individuals as allies, grim Death would carry off the best of us, if ill. So it is with other persons when ill. If they are surrounded with cheerful persons, they have a fair prospect of pulling through. But let them be encircled by moping or dolesome relatives, and their chances fade out quickly. In old Peter Featherstone's case, of course these relatives were furthering their own ends by thus depressing the little life that was left to their unamiable relative, whose very breath they seemed to grudge. But in the majority of instances these "kill-joys" are such unintentionally, and not by design. They are people of an unhappy temperament,—oppressed, too, with a sense of seriousness at the emergency very often. But they are murderous all the same. Some medical men, too, have a depressing temperament and manner with them which is lethal to their patients in any emergency. There is one such man well known in London. It is said of him, "But his patients all die!" Yet he is an able man, as is demonstrated by his written works. He is also an F.R.S. He is a finished gentleman. But he is not cheery, and he is only partially successful in proportion to his intellectual deserts. A very fashionable physician is, on the other hand, a cheery man; his tone of voice and accent are encouraging; the patient feels the better for seeing him, and naturally is glad to see him. Such a man is a godsend to patients when life and death are nearly evenly balanced and the tones of a voice may make all the difference. No wonder he gets large fees, for he deserves them. Stories are told of large sums being given him merely to visit a dying man where no hope of any improvement was entertained, but merely to cheer him with a chat. Such a presence in a sick-room breathes life into a patient, inspires him with hope, and results in his recovery, if that is among the list of the practically attainable. An observant, thoughtful medical man always looks to the individuals around a sick person, and weeds out the undesirable ones. Of course they object. But, fortunately, the fitness of relatives for nursing an invalid is an exploded notion. The tie of blood does not constitute a qualification for a sick-room, and though such frank expression may be an offence to certain personages who like to make their way into a sick-room, it is perfectly justifiable. Why in the name of common sense has a sick person to die because some gloomy-minded individual determines to nurse him? The growth of professional nurses is largely fostered by this constitutional unfitness of temperament for nursing on the part of some relations. The doctor can secure a cheerful nurse, fortunately, for nurses can be got on demand. But persons must put up with their relations; there is no changing them! And, if unfortunate enough to be seriously ill, they must take their chance with them. These croakers flock to the sick-room as gloomy as ravens. They resent any hint that they are not felt to be essential. They have come to fulfil a duty; and they are going to do it. Yes; and, if the doctor cannot succeed in getting rid of them on some pretext or other, they will persist in doing their duty till the funeral is over. Family affection is a beautiful topic for the sententious, but in a sick-room it is often an unmitigated misfortune for the sick person. The middle-aged woman, whose face is the reflex of her thoughts, and who is given to speak a word in season, whose bombazine dress is an outward indication of her unfitness to be near a person who is seriously ill,—she is simply a death-warrant incarnated. I respect her motives, but I question her suitableness for her self-elected mission. A more dangerous association for a case of serious illness it is difficult to imagine. Such a female on the premises darkens the prognosis wofully. If she cannot be got rid of, the patient's existence is merely an affair of days. Get her away, and a cheerful nurse with a pleasant voice and a light hand in her stead, and the patient's prospects immediately brighten. A pious widow with dyspepsia and strong religious convictions is a ghoul when illness is about. She sucks the life out of an invalid like a moral vampire. As life ebbs she is sustained, and when the invalid has passed the portals of another world she goes away edified, strengthened, and encouraged in her murderous mission, fully prepared to extinguish the life of any number of relatives, if ill-luck should prostrate them on a sick-bed. Yet she is devoted to her ghoulish mission. She is as convinced of her moral right to intrude herself upon her dying relatives as were old Peter Featherstone's "blood-relations, who naturally manifested more their sense of the family tie, and were more visibly numerous, now that he had become bedridden." Their obtrusiveness was not to be snubbed, and Solomon was spokesman for near kith-and-kin when he replied, on being ordered out of the room, "I shall be down-stairs, brother, whether or no. I shall do *my* duty, and it remains to be seen what the Almighty will

allow." Now, such a family demonstration may seem very absurd in your country, but it would not be in any opposition to a North-country experience, when serious illness developed. Ties of blood then became visible which ordinarily were occult; and when the funeral finally arrived, the group entitled to sit in the bedroom where the coffin lay represented the furthest development of the blood-tie, in many instances only known to exist by these periodical appearances when the undertaker's sad task called the relatives together. A sad demeanor, a suppressed manner, funereal tones, are appropriate enough when the opportunity of showing respect to a distant kinsman by being present at his obsequies calls them forth, and then are harmless; but if allowed previous to this event they are decidedly homicidal. Nevertheless, it is sometimes part of the duty of a consultant to banish certain objectionable individuals from a sick-room; and very injured the ejected look when the sentence is carried out. At other times it is not moral but physical or intellectual unfitness that constitutes the bar, —a heavy foot, a clumsy hand, an officious manner, a harsh voice unmodulated to meet the ear of the sick person, or well-intentioned willingness linked with lack of foresight, and consequently doing fifty things far better left undone, and keeping the sick-room in a perpetual turmoil instead of that orderly quiet which is so sedative and conducive to repose.

It is impossible not to feel that the successful issue of this remarkable case is due to the aggregation of all these factors: (1) an admirable patient; (2) circumspect, intelligent medical attendants; and (3) rational, well-behaved, self-controlled relatives, who, whatever they might feel, maintained a perfect composure of manner. Under such an aggregation even a wounded peritoneum has conducted itself admirably, and demonstrated how in recent times this large serous sheet can tolerate injuries to it without actively resenting them. Certainly the case in all its details is one of great scientific interest, carrying with it a message to all time. What amount of the success so far attained is due to the adoption of Lister's principles of local treatment, it is difficult to say; but it clearly seems entitled to some portion of the credit. The antiseptic seems to render innocuous the decomposing particles of the tissues actually killed by the impact of the bullet, which otherwise is such a grave source of danger. Where the bullet is actually lodged is only a matter for speculation; but, wherever it is, it seems to be exercising no injurious influence. Indeed, if it be unaccompanied by any particle of clothing, as seems the case, the leaden missile may become encysted by a capsule of connective tissue, and may be thus rendered inert and devoid of harmfulness, never making its presence felt during the rest of President Garfield's existence, which we all trust will be a prolonged one. The good feeling displayed by the sympathy with the wounded man and his family, evidenced on all sides and among all ranks of life here, will do much to cement the union betwixt two large peoples speaking the same language, as its wide issue; the success of the case will, as a minor issue, demonstrate the claims of American surgery to the respect of all. Because we in Europe see the American visiting us in his brief holiday, working hard, seeing everything, evidencing an ardent thirst after information, carrying away with him everything it is possible to secure, it will not do to imagine that he has nothing to tell us in return if he chooses to assume the rôle of teacher rather than that of student. Otis and Sayre have recently put the Britisher up to a thing or two; albeit their lessons have only been very imperfectly imbibed in a considerable proportion of cases. When the representatives of medicine and surgery assemble next month, there is every reason to hold that the delegates from the United States of America will have no cause to hide their heads at the position they will take in the mighty Congress. Of course there are probably many men on the Continent, as there undoubtedly are here, who are unfamiliar with the work done in the New World, who will be surprised at anything advanced in the United States of America, except the construction of revolvers and amusing newspaper paragraphs, or gigantic schemes for the transference of money from one pocket to another, and to whom Barnum, Colt, and Jay Gould or Jim Fiske are the best-known names. But instead of such ignorance being a matter to be proud of, as was not so very long ago the case, the better informed now show in their familiarity with matters American a spirit of appreciation which will develop further with time.

J. Milner Fothergill.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

A CONVERSATIONAL meeting of the Society was held at the Hall of the College of Physicians, Philadelphia, May 25, 1881, Dr. Albert H. Smith, President of the Society, in the chair. Dr. Wm. M. Welch read a paper on "Vaccination" (see page 705), which received a vote of thanks and led to general discussion.

DISCUSSION.

Dr. Henry H. Smith said that physicians generally should pay more attention to the method of vaccinating and to the course of the vesicle, in order to see whether it passes regularly through its different stages of devel-

opment in a typical manner. In order that vaccination may be effective, the virus should be introduced under the skin in a state of solution.

Dr. Ludlow agreed with the last speaker, and insisted upon the umbilicated character of the vesicle as a diagnostic point. He believed that many persons presumed that they had been vaccinated when the procedure had not been properly performed and was not protective, and referred to the fact that some have to be vaccinated a number of times before it would "take." Occasionally the papule is delayed for several days — even ten days—before it shows itself after vaccination.

Dr. Wm. P. Moon referred to a limited outbreak of smallpox in a public hospital, and the measures taken to control its spread. On the 9th of December, 1880, a patient, and on the succeeding day a servant, in the female department of the Pennsylvania Hospital for the Insane were discovered to have a severe attack of variola. Both were sent to the Municipal Hospital. On the 17th of December, 1880, a case of varioloid occurred in the person of the steward's wife. From that date to the 6th of January there had occurred thirteen cases. The hospital consisted of a central building with north-and-south wings, the latter of which was carefully isolated, and the cases were in this way confined exclusively to the south side of the house. Vaccination and revaccination were practised. Only seven or eight cases had not been previously vaccinated. Three hundred and sixty-two in all were vaccinated, one hundred and fifty-two on the south side and one hundred and ten on the north side. In the series of one hundred and fifty-two revaccinations, ninety-four took. Of these, eighty-four were vaccinated for the second time, twenty-six the third time, six the fourth time, three the fifth, and one the sixth. Out of the one hundred and ten on the north side, ninety-five were revaccination cases, nine second, two third, leaving only four which did not take of this series,—so reported by Second Assistant-Physician Henry B. Nunemaker, M.D.

The appearance of smallpox in a hospital situated as this one is caused much anxiety for its results; but, owing to the care in isolating patients, the endemic was confined to one side of the house. There was ample room for treating the cases. The centre buildings were vacated, and communication shut off from the two sides. Two cases occurred in the centre building, but no others after these had been removed to the south side.

Dr. Wm. T. Taylor said that he did not hesitate to vaccinate women during pregnancy, and reported a case where it seemed also to protect the infant. A young lady was taken with varioloid; in the same house there was a woman six months pregnant, who was at once vaccinated and escaped the disease. At the end of utero-gestation a brother of the lady was lying in an adjoining room sick with smallpox. The speaker vaccinated the infant again and again, but it would not develop. Nor did it take the smallpox. The question is, was the child protected by the vaccination of the mother during pregnancy? As regards the mode of vaccination, for the last fifteen or twenty years he had vaccinated with the needle (tattooing), using humanized virus, except occasionally when he used an ivory point. Softening the lymph-crust to the consistency of cream, it is put on the arm reddened by previous scraping, and with the needle it is pricked in fifteen or twenty times. This generally succeeds. For many years he used the crusts occasionally, keeping them for months. Lately he has commenced the use of animal virus. He also mentioned a case which had been vaccinated a number of times without any effect, as an instance of natural immunity from vaccinia.

Dr. Benjamin Lee said that in a paper previously read before this Society, in 1872, one of his conclusions was that bovine lymph was not quite so lively, the human system was not quite so susceptible to its influence as to humanized virus; but his experiments had been made with bovine virus imported from Germany in hermetically-sealed tubes, which, perhaps, had lost some of its properties. The providing of lymph should not be left to private enterprise and speculation, but every large centre of population should have a vaccine farm, and no virus should be sent out without official approval. It is not likely that we shall ever return to humanized virus. It is therefore of great importance that bovine virus should come clothed with some authority.

The lecturer had said that a vaccination might be protective and yet not pursue a typical course. He inquired what would be the test by which this might be known.

Dr. Jas. K. Collins said that twenty-five days before he had vaccinated a baby three weeks old with a bovine point obtained from an apothecary. On the fourth day the spot was red; on the tenth day a crust had formed, which fell off on the twenty-first day. Shortly afterwards he was called to see another member of the family: the child was perfectly well. On the same evening she was seized with opisthotonus; occasionally her jaws were tightly shut. She died at five o'clock the following morning with tetanus. It is the first case of the kind that he had ever met with. There appeared to be no other evidence of injury than the vaccination. The case seems unique, as he had not been able to find a parallel case.

Dr. W. R. D. Blackwood insisted upon the proper performance of vaccination, and endorsed the methods proposed, preferring in his own practice scarification,—dipping the point in water, shaking off the surplus water,

then rubbing the virus on the scarified portion for a minute or two. He reported a case in which a pregnant woman (eight months) was protected by vaccination, although small pox was in the same house. The infant never was vaccinated, but has since passed through an epidemic safely. He was therefore satisfied both that vaccination was protective after exposure and that vaccination in the later period of gestation also protects the child. He has not now used humanized virus for many years, except by special request. In using a crust he invariably pulverizes it in a mortar, and sees that it is perfectly dissolved before using it. He believed that he had seen two undoubted cases of syphilitic infection by vaccination.

Will vaccination take on those who have had smallpox? In a case of a girl eight years old, with well-marked pits upon her face, he successfully vaccinated, leaving two well-marked scars upon the arm. In a public institution he had vaccinated two hundred and thirty-four cases of all ages up to sixty and one hundred. Some of the revaccinations had typical scars just as much so as in the infants.

Dr. M. O'Hara thought that the exact value of vaccination as a protective against the smallpox cannot be estimated. He had seen people die in a second attack of smallpox. A physician died at the hospital in the third attack. We should not, therefore, ask too much from vaccination. Some persons are insusceptible to both vaccination and smallpox. Another element of doubt is the epidemic constitution of the air, which greatly affects the spread of the disease and its malignancy. He believed that much work was yet to be done in compiling the statistics of the Board of Health, in order to find out how many deaths have been prevented by public vaccination. A great amount of work had been done, and he would like to have this evident in the diminution of the death-rate.

Dr. S. K. Baldwin corroborated the remark made by a previous speaker in regard to obtaining typical vesicles in old people, even in revaccinations.

Dr. Wm. S. Stewart said that he had reported a case of supposed smallpox to the Health Office, but was told that she could not be taken to the hospital until the eruption showed itself sufficiently to enable him to be positive. He believed that the patients would do better if they could be moved earlier. He endorsed all that had been said in the paper. He had seen a case where a mother had an attack of confluent smallpox. The child was vaccinated, and, although nursed by the mother, did not have the smallpox.

Dr. Albert H. Smith had been educated in the school that believed that vaccination of pregnant women was little less than homicide. Having seen a case of varioloid terminating fatally after miscarriage at about six and one-half months, he made up his mind to vaccinate every pregnant woman where exposure had occurred, and he had since done so up to the present date. He had seen no more fatal cases since he had adopted this plan, which he highly recommended, as the danger is so much greater from variola in this condition that we are warranted in running the risk of the vaccination. His experience had been considerable, and he had never seen the slightest evidence of any disturbance of the ovum, nor threatening of miscarriage. This is a subject of vital importance, because the pregnant woman will probably die with variola if unprotected.

His experience in regard to children was different from a former speaker's. He had never failed in primary vaccination in young children. He has used bovine virus invariably for a number of years.

Dr. Arthur Meigs said that the lecturer had not stated how many insertions he was in the practice of making in vaccination, and, in the second place, in the revaccinations he had not said whether it was performed only once or more than once; in the third place, he would inquire whether a person insusceptible to vaccination could be regarded as safe from an attack of smallpox.

Dr. W. H. Parish endorsed the statements in regard to the comparative safety of vaccination of pregnant women. He had in no case seen any inconvenience resulting.

Dr. Frank Woodbury said that as a test of successful vaccination the method of double insertion had been recommended,—that is to say, the virus is inserted twice, with an interval of a day or two between. In a successful vaccination the second vesicle will catch up and develop simultaneously with the first. He thought that this simple method might be more frequently practised. In regard to the work of the public vaccine physicians, he believed that, instead of the supply of lymph being left to individual enterprise, the city authorities should take especial pains to supply the vaccinators with genuine bovine virus. Perhaps part of the failure which has been claimed to exist is due to want of proper care in the selection and use of the material they employ in vaccinating. He also referred to the present epidemic of smallpox and to the unsystematic and inefficient means adopted by the Board of Health to prevent the spread of the disease, and also to the inadequate accommodations for conveying patients to the hospital. Practically, no restrictions have been placed upon those cases of smallpox which are reported by their attending physicians as being cared for at home, nor upon their attendants. Visitors to the smallpox hospital also come and go in the regular street-cars without hindrance. Very imperfect, dilatory, and unsatisfactory measures have been taken for the disinfection of wearing-apparel and bedding, or infected prem-

ises. The manner of conducting patients to the hospital is lacking in humanity, often injurious to the patients, and extremely discreditable to a great city like Philadelphia. Cases were mentioned where patients, instead of being carried directly to the hospital, were carried in the ambulance for several miles out of their road in order to pick up other patients, to their great injury, and increasing the risk of infection in case a mistake in diagnosis had been made. Moreover, no physician is sent with the ambulance, and the responsibility of making the diagnosis is thrown upon the ordinary physician who may happen to be called in. Thus it happens that patients are not reported for removal until the eruption is fully out, and they are subjected to the risk at a time when their disease is at its height, and when the danger is naturally greatest. A case was also reported in which a respectable woman was attacked by variola, and was ordered to be sent to the hospital by her physician on account of the supposed better accommodations, although she had a comfortable home. When the ambulance arrived, it was found that it already contained a burly negro covered with smallpox eruption,—the most repulsive object that could well be imagined,—and the husband was required to carry his beloved and still conscious wife down-stairs and deposit her by the side of the other patient. Thus was she dragged away. He never saw her again, for she died in the pest-house; but he will never forget her parting look, nor this gross insult put upon him by the carelessness or parsimony of some one in authority. In conclusion, Dr. Woodbury contended that during such an epidemic as we have just passed through, house-to-house visitation by public health officials is imperatively demanded, who should be clothed with authority to isolate the sick, or, what would be better, order all cases at once and without exception to the hospital for treatment; and, further, that enough ambulances should be provided to allow of the carrying of patients singly and directly to the public hospital.

In connection with the last case it was also said that after exposure the whole family and the speaker himself were promptly vaccinated with bovine virus obtained from a regular dealer, which was supposed to be reliable, but was utterly worthless. It not only afforded no protection at all, but gave a false sense of security and prevented genuine vaccination from being practised.

Dr. H. F. Baxter said that much of the bovine virus is bad. He had used it, and he had never seen a typical vesicle. With humanized virus he had vaccinated six or seven thousand cases successfully, and had only been able to trace a single case of varioloid occurring in all these cases.

Dr. W. M. Welch, in closing the debate, spoke of the importance of introducing the lymph in a state of solution, the surface being prepared by slight scarification with a lancet. He believed that since the introduction of bovine virus (1870) there has occurred some change in the course of the vaccine pustule. Some years ago, with long-humanized lymph, the scab would fall off, or could easily be taken off, on the fourteenth or fifteenth day; now the crusts remain often until the fourth week, and sometimes longer. There is therefore some difference in its course, but whether or not there is any variation in the protective power there is room for doubt. In regard to the local effects, he did not think that a great amount of inflammatory action makes the vaccination more protective. Concerning insusceptibility to vaccinia, he believed it to be rare, but spoke of one case where he had failed after several attempts at primary vaccination, and subsequently, during an epidemic of smallpox, he tried it again, and succeeded in vaccinating the child. He had admitted patients vaccinated in infancy into the hospital with smallpox, who had been exposed to the contagion some years before without contracting the disease. If, therefore, it is true that persons may be susceptible to vaccination or smallpox at one time and not at another, is it not wise to vaccinate all persons, whether or not previously vaccinated, during an epidemic prevalence of the disease?

As regards successful revaccination, those subjects who are vaccinated within the first year of life are more apt to be successfully revaccinated at puberty than children vaccinated at a later age. He approved of vaccination, when necessary, during pregnancy, and believed that a child born under such circumstances might possibly be protected against smallpox or vaccination, though, in his opinion, this would not be the rule. Abortion very frequently occurs as the result of smallpox in pregnancy, but not always. He had kept records of some cases that went on to full term afterwards, and the child bore no marks of having undergone smallpox *in utero;* and he had never failed to obtain a characteristic vaccination. But cases have been reported where the child has survived an attack of smallpox *in utero.* Such a child would doubtless be insusceptible to vaccination. A case of miscarriage recently occurred in the hospital, in which the fœtus showed an unmistakable vesicular eruption on all parts of the body. If, therefore, the fœtus may have smallpox, may it not also be protected by vaccination of the mother?

While the bovine virus now obtainable, for some reason or other, much more frequently succeeds in inducing vaccinia than that which was in the market some years ago, it is still to be feared that much of it sold as genuine is spurious and unprotective. Dr. Martin, of Boston, in reply to a letter, wrote to the speaker that there is a great deal of spurious lymph in use, and said that many of the so-

called "cones" are particularly bad, being made up largely of dung, urea, hairs, epithelium, and only about five per cent. of animal lymph. They sometimes succeed, but more often fail, or produce spurious results.

In cases apparently insusceptible to vaccination by ordinary methods, Dr. Welch recommends fresh eight-day humanized lymph or arm-to-arm vaccination. This he has always found to be successful. Very few persons are naturally insusceptible to smallpox. He mentioned a case exposed in the hospital, and without any vaccination scar, who could not be successfully vaccinated, and who did not take smallpox; but such cases are entirely exceptional. As regards the protective power of vaccination, he was fully convinced of it. Families are often sent to the hospital, some of the members having smallpox and others well and unvaccinated: the latter, being vaccinated after admission, not unfrequently are protected against smallpox, although daily exposed to it. But, unless the vaccination gets a certain start of the disease, it exerts no modifying effect upon it whatever. Two families now at the hospital illustrate the protective power to a high degree. In one containing eight persons, all were sick except the mother, who previously had had varioloid, and a child with a well-marked cicatrix from vaccination. This one child, vaccinated two years before, was the only one of the family exempt from smallpox,—none of the other children having been vaccinated. In another family, two vaccinated children lived among the smallpox cases without taking the disease, while all the rest of the family, not being vaccinated, were sick with it.

As regards the number of insertions, he had statistics upon this subject, which had appeared in the reports of the Board of Health. During the epidemic of 1871–72—when a large number of cases came under his observation—he found that one good cicatrix gave quite as much protection as half a dozen. He had seen persons with ten or twelve—even as many as seventeen—typical scars from vaccination in infancy suffer from smallpox, and he has known deaths to occur among such. Of course they had not been revaccinated.

In regard to Bryce's test mentioned by Dr. Woodbury, of vaccinating twice, with several days' interval,—the crusts dropping off at the same time,—he did not consider it of great value where the vaccination performed first was genuine.

COPAIVA IN SCIATICA.—

℞ Bals. copaivæ, ʒiv;
Tinct. lavandulæ, ʒiv;
Tinct. hyoscyami, ʒiij;
Potass. bicarb., ʒj;
Mucilag., ʒj;
Aquæ, ʒvj.—M.

S.—A tablespoonful every four hours.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, MAY 26, 1881.

The PRESIDENT, DR. S. W. GROSS, in the chair.

Primary cancer of the gall-bladder. By Dr. J. H. MUSSER.

MRS. McM., the patient from whom the specimens before you were removed, was under my care from the 9th of March until the 4th of May, 1881. Her illness dated from the middle of December, 1880, and continued until the 18th of May, 1881. She died in the Presbyterian Hospital, and I am indebted to Dr. Markoe for the privilege of this exhibition. The history previous to my attendance was apparently that of an intermittent fever with hepatic and gastric complications. The symptoms referable to the liver were paroxysmal lancinating pains in that region, at times so severe as to almost cause collapse. The gastric symptoms were epigastric pain, loss of appetite, flatulence, acid eructations, and, at variable intervals, attacks of vomiting. She had not been jaundiced.

I found her suffering from an intermitting fever with daily paroxysms, each beginning about 1 P.M. and continuing until 7 or 8 P.M. The chill lasted a half-hour, and was moderately severe; the fever lasted four hours, at its height the temperature being 103°. She was emaciated; her features indicated exhaustion and were somewhat pinched; her complexion was sallow; she was anæmic.

She suffered from severe paroxysmal pains in the epigastric and hypochondriac regions. The areas were tender on pressure, but no tumor was noticed. The liver-dulness extended three inches below the ribs in the nipple-line. The spleen was twice its natural size. The appetite was lost. She had nausea, acidity, and flatulence. The bowels were constipated. Urine contained neither albumen nor sugar. Urates and uric acid were in abundance.

During the course of her illness the symptoms may be detailed under three headings,—febrile, gastric, and hepatic. There seemed to be no relation between the different sets of symptoms, except the febrile and hepatic. The fever was more continuous when the jaundice was deepest. At the risk of some repetition, I will note them.

Gastric.—Tongue covered with a dark-yellow, heavy fur, moist, tremulous; later dry and brown. Bitter taste in the mouth, secretions viscid, loss of appetite, thirst, acidity, flatulence, weight and fulness after meals, epigastric pain and tenderness, nausea and vomiting. I desire to call particular attention to the nausea and vomiting. It, of all the gastric symptoms, was especially independent of any other symptoms. It occurred once in two weeks, once a week, or twice a week.

Each paroxysm lasted from two to four days. The fluid vomited varied, from a clear-white, sour, to a greenish-yellow, bitter liquid.

Hepatic.—Pain in the right hypochondriac region, paroxysmal, sharp, and lancinating, radiating to right and left shoulders and to epigastrium; tenderness on deep palpation, absence of tumor or irregularity of edges, enlargement as noted above. On account of liver-derangement, marked jaundice, with clay-colored stools and bile in the urine. The jaundice occurred four times while the patient was under my care. The first attack was light, lasting three days; the second and third each lasted a week; the fourth, beginning on the 25th of April, continued till death. With the second and third attacks the fever was remittent in character; with the last it was continuous. As the jaundice improved, the fever changed from the remittent to the intermittent type.

Febrile.—As may be inferred from the previous notes, the fever was irregular. At first it was intermitting, then remitting, and finally it became continued. At no time was the temperature higher than 104°. With the rise in temperature there was a corresponding pulse-rise. The increased pulse was not as great as a pulse at the height of a paroxysm of intermittent by twenty beats. The last month of illness it became rapid, feeble, compressible, and dicrotic. When the fever was remittent or continuous, in the evening there was delirium. The "typhoid" state developed the last ten days of her life, and death took place from cardiac failure. The use of antiperiodics prevented the paroxysms at first. As soon as the drug was suspended they recurred. Finally, in spite of any remedies, the fever continued.

The following facts also bear upon the case. The patient was a married woman, who had not lived with her husband for several years, on account of his brutality. She was 37 years old, a nurse by occupation. She had always been in poor health, and had had several attacks of biliary colic. The family history was good, save that a maternal aunt died of cancer. Her mother and brothers were living; her father had been killed.

The post-examination was made by Dr. Warnock. He reported that rigor mortis had set in early, that the body was greatly emaciated, and that all the tissues were stained with bile. With the exception of the liver and spleen, the organs were normal for a person who had died of heart-failure. The liver and spleen I examined carefully. The latter organ was about twice the normal size, of a dark greenish-brown color, of about normal consistence. Unfortunately, it was not examined microscopically.

The liver was of a peculiar shape. The right lobe was eight inches long, the left the same. Curiously, however, the lower edge of the latter lobe did not extend as low down as that of the right lobe, but its upper edge was three and one-half inches beyond the same edge of the right lobe, while the lobe was doubled on itself to conform with the concavity of the diaphragm. Transversely the right lobe measured five and one-quarter inches, the left three and one-half. The former was two and one-half inches thick, the latter one and one-half. The gall-bladder was in the normal position and of the normal size. It was adherent to the duodenum. The color of the outer portion was pure white, not bile-stained. It was not collapsed, and was of firm consistence. A portion of the bladder underneath the liver, not quite as large as a walnut, was of natural color and fluctuated.

On section of the gall-bladder it was found that the white appearance of the exterior was due to cancer, which involved three-quarters of the organ. The growth encroached upon the cavity so that the walls were from one-half inch to one inch thick. The mass was of the appearance of a soft cancer; the inner surface had a ragged, ulcerated appearance, and in the centre of the mass was found a gall-stone the size of a filbert, with a rough surface, looking like a mulberry calculus. The stone was lying against the mouth of the gall-bladder; behind the stone was a cavity about the size of the stone, filled with a thick greenish-yellow fluid. From the appearances one would infer that the stone acted as a ball-valve to the duct. The duct was involved to and beyond the junction with the hepatic duct. The hepatic duct was enlarged, its walls thickened, its calibre much increased. The branches extending into the upper half of the right lobe were greatly dilated, even almost to the periphery of the liver, terminating in saccular dilatations. The ducts contained a thick grayish-green matter; the walls were of a slate-gray color, dotted with dark points. The liver-substance traversed by these ducts was dark and soft, not unlike gangrene. A part in the centre about three inches square was especially of this appearance. The remainder of the structure of the organ was slightly stained with bile and fatty in appearance.

On microscopic examination the malignant mass was found to be of the nature of a medullary cancer. The cystic and part of the hepatic duct was involved. The transition from the cancerous to the catarrhal process in the ducts was well marked. In the liver, catarrhal inflammation of the ducts was very distinct. In the lymphatic spaces around the ducts there was an abundant infiltration of epithelioid or indifferent cells. It was impossible to say, though it was highly probable, that the disease had involved the ducts. No doubt such would have been the case had the patient lived longer. The cancer of the gall-bladder was no doubt primary, from the ragged appearance of the mass and the absence of nodules. I shall try to determine

why the special ducts were involved, and will report the result to the Society. Dr. Formad very kindly confirmed the examination.

I desire to discuss elsewhere, in detail, the etiology, the clinical history, and the diagnosis. Remark, however, the relation of the gall-stone to the new growth as cause and effect in a person predisposed to cancer. Let me say, too, that I did not diagnose cancer of the gall-bladder. Long before her death I suspected internal malignant disease.

Dr. FORMAD said that he had examined the specimens microscopically, and had readily detected the presence of carcinoma of the soft type. The gall-ducts were strongly catarrhal, and the surrounding lymphatics were crowded with a small-celled infiltrate, which might possibly be metastatic, as some of the cells had a suggestive look. The presence of gall-stones in this case was of interest, as pointing to a local origin of the disease, since primary carcinoma of the gall-bladder is excessively rare.

Dr. MUSSER replied that Murchison teaches that primary cancer of this organ is always associated—probably causatively—with the presence of gall-stones.

THURSDAY EVENING, JUNE 22, 1881.

The VICE-PRESIDENT, DR. JAS. TYSON, in the chair.

Specimens removed in a case of preventive trephining for a compound comminuted depressed fracture of the cranial vault. Presented by Dr. C. B. NANCREDE.

Hugh McD., æt. circa 25 years, was admitted to the male surgical wards of the Protestant Episcopal Hospital in August, 1880. When I saw him his mind seemed clear, but his pulse was decidedly slow for a man who had been so severely injured and who had lost considerable blood. He had been struck down into the hold of a vessel by the falling upon him of about a ton of iron ore, which crushed his left leg to such an extent as to demand amputation. The fracture of the skull-vault must have been produced by his head striking against the corner of a bolt-head or nut, as it had evidently resulted from contact with some small, comparatively pointed object. The bone was much depressed over a small area, somewhat resembling a punctured fracture. Considering that, from its appearance, the inner table was probably extensively fractured, and believing as I do in "preventive trephining," I removed a circle of bone, elevated the depressed portions, and removed a number of fragments of the inner table, which had been driven down upon the brain and forced beneath the contiguous undepressed portion of bone. The wound was dressed antiseptically. As far as the head-trouble went, he did uninterruptedly well. If more compound comminuted depressed fractures of the skull were elevated before secondary mischief was lighted up, many more cases would recover than do under the present "let-alone" plan of treatment. I merely present this case as a typical one, for this is the second within a year in which I have performed preventive trephining successfully. After inflammatory trouble has been set up, trephining does not usually effect more than a temporary relief of the symptoms.

Dr. HENRY asked whether any symptoms of motor paralysis had been noted, as such cases would tend to prove the correctness of Ferrier's views. The site of this injury was such as should have produced motor paralysis of the upper extremity.

Dr. NANCREDE said that none had been detected.

Dr. SEILER related a case which he had seen when last in Vienna, where, by the knowledge gained by the experiments as to cerebral localization, the surgeon had correctly diagnosed the site of an old depressed fracture, which he had successfully removed by the trephine.

Dr. HENRY mentioned Dr. Detmold's successful case of trephining and opening of an abscess deeply seated in the brain-substance.

Dr. NANCREDE then made some remarks upon what had been done in the direction of a practical application to surgery of cerebral localization in France, and cursorily reviewed some of the recent literature of the subject.

Tumor of shoulder. Presented by Dr. J. M. BARTON, for Dr. L. H. ADLER.

The growth which I here present for Dr. L. H. Adler, of this city, was removed by him on the 24th instant from the shoulder of a married lady 28 years of age. It was covered only by skin and superficial fascia, but the deeper portions were embedded in the trapezius muscle. It had a distinct capsule which was closely adherent to the muscle, and had to be removed by a tedious dissection. It had no bony attachments. The growth was noticed for the first time about two years ago, the patient stating that it was nearly as large then as now. It has never been the seat of pain, and the general health of the patient has been unaffected. The skin over the tumor was perfectly healthy. It was situated on the anterior edge of the trapezius muscle opposite the middle of the clavicle.

COCA WINE.—Under the name of *vinum Mariani*, says the *British Medical Journal*, Messrs. Roberts & Co. are introducing into England a preparation of coca prepared from the leaves of the *Erythroxylon coca*. It forms a very agreeable and, according to the clinical experiences of physicians in France as well as England, a very useful nervine stimulant. It is valuable as a remedial agent in cases of nervous exhaustion, over-study, or excessive mental exertion.

REVIEWS AND BOOK NOTICES.

SUPPLEMENT TO ZIEMSSEN'S CYCLOPÆDIA OF THE PRACTICE OF MEDICINE. Edited by GEORGE L. PEABODY, M.D. New York, William Wood & Co., 1881. 8vo, pp. 844.

This work is intended to cover only the ground gone over in the original Cyclopædia, and it aims to make such additions as recent investigations and publications have rendered necessary.

The advantage of such a book as the present is that it gives the result of recent advances in medical science in a convenient shape for the busy but studious practitioner. The names of Dr. Peabody's collaborators are a sufficient guarantee that the work has been well done. Typhoid, Relapsing Fever, and Plague are dealt with by Dr. G. B. Shattuck, of Boston; Yellow Fever, by Dr. G. M. Sternberg, U.S.A.; Croup and Diphtheria, by Dr. F. P. Kinnicutt, of New York; Varicella, Measles, Rickets, by Dr. F. Forcheimer, of Cincinnati; Smallpox, by Dr. F. P. Foster, of New York; Malarial Diseases, Dengue, by Dr. Henry M. Lyman, of Chicago; Cerebro-Spinal Meningitis, by Dr. J. Lewis Smith, of New York; Syphilis, by Dr. Jas. Nevins Hyde, of Chicago; Glanders and Anthrax, by Dr. James Law, of Ithaca; Hydrophobia, Trichinosis, Intestinal Parasites, by Dr. T. E. Satterthwaite, of New York; General Diagnosis and Therapeutics of the Diseases of the Larynx, by Dr. George M. Lefferts, of New York; Diseases of the Nose and of the Pharynx, by Dr. J. Solis Cohen, of Philadelphia; Diseases of the Pleura, by Dr. G. M. Garland, of Boston; Diseases of the Lungs, by Dr. Shattuck; Diseases of the Heart and Pericardium, by Dr. T. M. Rotch, of Boston; Diseases of the Arteries, Veins, and Lymphatics, by Dr. A. T. Cabot, of Boston; Diseases of the Stomach, Intestines, Spleen, by Dr. E. G. Cutler, of Boston; Diseases of the Bladder, Urethra, Prostate, etc., by Dr. R. F. Weir, of New York; Diseases of the Liver, by Dr. R. H. Fitz, of Boston; Diseases of the Female Sexual Organs, by Dr. Foster; Diseases of the Peripheral Cerebro-Spinal Nerves, by Dr. S. G. Webber, of Boston; Diseases of the Brain, etc., by Dr. L. Putzel, of New York; Diseases of the Spinal Cord, by Dr. R. Van Santvoord, of New York; Vaso-Motor and Trophic Neuroses, by Dr. J. J. Putnam, of Boston; Diseases of the Kidney, by Dr. A. B. Ball, of New York; Rheumatism, etc., Osteo-Malacia, Anæmia, Scrofulosis, etc., by Dr. C. E. Hackley, of New York; Diabetes, by Dr. H. N. Heineman, of New York; Hæmophilia, Purpura, Scurvy, by Dr. H. M. Bannister, of Chicago; Toxicology, by Dr. E. S. Wood, of Boston. We have given a list of authors and subjects at length because we think that in no way can we better convey an idea of the scope of this valuable work. When we add that the articles are for the most part accompanied by a bibliography (that on syphilis being, very unfortunately, an exception), the reader can see that the book is one to be kept in mind for reference, and one which, if possible, should be placed upon the library shelves.

THE ORTHOPRAGMS OF THE SPINE. An Essay on the Curative Mechanisms applicable to Spinal Curvature, exemplified by a Typical Collection lately presented to the Parke's Museum of Hygiene, University College, London. By ROBERT HEATHER BIGG, Assoc. Inst. C. E. London, T. & A. Churchill, 1880. 8vo, pp. 150.

What is an orthopragm? That is the first question which will occur to the average reader on picking up Mr. Bigg's book, and for its solution we must refer him to the work in question itself. Mr. Bigg studies the human spine from the mechanical point of view, first in its normal conformation, then in its abnormal variations, and finally the broad principles upon which *restitutio ad integrum* is to be brought about by mechanical means.

ATLAS OF SKIN DISEASES. By LOUIS A. DUHRING, M.D., Professor of Skin Diseases in the Hospital of the University of Pennsylvania, etc. Part IX. (concluding the series). Philadelphia, J. B. Lippincott & Co., 1881.

We congratulate Professor Duhring on the accomplishment of his arduous labor in connection with this truly monumental production. Unaided and alone he has pushed through to completion, amid obstacles which those only can appreciate who have attempted a similar enterprise, a work which will last when systems and treatises are obsolete and forgotten; for the faithful delineations of disease, whether by pencil or by pen, can never become obsolete. We have frequently taken occasion, in our notices of the various parts of Professor Duhring's Atlas, to express our pleasure and admiration at the truthfulness and character of these representations of average skin diseases as found from day to day. Resisting the temptation to depict strange and monstrous diseases *ad captandum vulgus*, he has been content to represent skin diseases as the practitioner finds them; and in this lies the high value of his Atlas.

The present and concluding fasciculus comprises two plates of *eczema rubrum*, one of *pemphigus*, and one of *ecthyma*, of which we need say no more than that they are fully up to the standard of the previous plates,—the ecthyma, in fact, being, in our opinion, one of the most perfect in the series. A table of contents and a classified arrangement of the plates are placed at the end of the fasciculus, and the parts may be arranged for binding either as they have been issued or with the various affections grouped in due nosological order. Seven of the nine classes of skin diseases are represented in the completed

Atlas, the hyperæmias and the neuroses alone being unrepresented. Eczema, as the commonest of skin diseases, comes in for eight plates, representing it in all its various forms. Syphilis is represented by six plates, and the other affections by two or one each. Thus the whole ground is gone over, and the practitioner who has Duhring's Atlas is prepared for most of the affections with which he is likely to meet. The letter-press should not be ignored. It is not merely a description of the plates, but a condensed and carefully-written account of the disease, with the more trustworthy forms of treatment ordinarily employed. A. V. H.

GLEANINGS FROM EXCHANGES.

ORTHOPNŒA.—Dr. Henry Cook (*Practitioner*, June, 1881) defines the term orthopnœa to mean that exaggerated condition of dyspnœa in which the act of lying down becomes impossible, and the patient is constrained to assume the upright posture more or less absolutely, owing to the sensation of want of breath which supervenes on attempting to assume the prone position. A patient suffers from orthopnœa when,—1, he cannot fully inflate his lungs, either because of fluid or air in the pleural cavity, fluid in the air-cells and smaller tubes, consolidation of the lung, pneumonic or phthisical (though the condition in these is rarely met with), asthma, stenosis of the glottis from œdema or otherwise, emphysema, abnormal fulness of the abdomen (preventing the descent of the diaphragm), ascites, tympanites, and enlarged liver and spleen. 2. A patient suffers from orthopnœa when the circulation fails through inefficient action of the heart, from thinned or degenerated walls, from inefficient valves, from stenosis of its orifices or from fluid in the pericardium, from aneurism, or from tumors of the thoracic cavity.

In all these cases the essential condition giving rise to the orthopnœa is failure of or imperfection in the oxygenation of the blood, and consequently the circulation of impure blood through the nervous system. This, so long as the nervous system is still sensible of the injury done to it, incites the patient to make efforts to relieve the circulation of blood through the lungs. When the nervous system becomes oblivious to this circulation of impure blood, the patient gives up the struggle and assumes the recumbent position,—a sign of the worst import, and, indeed, of impending dissolution.

Dr. Cook gives several cases illustrative of the various forms of orthopnœa, and then goes on to inquire, "Why is the sitting posture essential to the successful performance of respiration in these cases?"

In cases of ascites the erect posture acts mechanically in relieving the diaphragm; the same is true to a less degree in general dropsy, the interference being purely mechanical. But in diseases of the heart and aorta we must look deeper for the causation. Dr. Cook does not believe that the prone position can, under any circumstances, interfere with the action of the heart itself, nor does he think that the blood-flow in conditions resulting from imperfect valves could be influenced by this position. Whether, however, the nervous energy of the heart and arterial system can be affected by position is open to critical consideration. The conditions affecting this are very complicated and intricate, and include the nervous supply to the heart, both cerebral and sympathetic, and the vaso-motor supply to the arteries.

Dr. Cook thinks that as the great sympathetic ganglia which supply the motor force to the heart are intimately connected with and acted upon by the other divisions of the double nervous system, it is not improbable that to this central cause may be due the partial paresis of the muscular tone of the arterial system which, he goes on to show, results on assuming the prone posture, and as a result, in part at least, of this, the embarrassed condition of the circulation, and consequently of the respiration, which produces the state of orthopnœa. Experiments with the sphygmograph, tracings from which are included in Dr. Cook's paper, confirm this view.

The treatment recommended by Dr. Cook in cases of mechanical difficulty is that of free purgation by hydragogue cathartics. As regards the physiological difficulty,—this having been shown to be dependent upon diminished tone of the arterial system,—our remedies should be such as are calculated to influence this condition. If we can by the action of drugs restore to a certain extent the lost tone, we may expect to relieve the difficulty of the circulatory system, and, through it, of the respiratory.

Now, digitalis does this. It strengthens the action of the heart, slowing and steadying it, and rendering the contraction of the ventricles more efficient; but, beyond and probably independent of this, it raises the tone of the arteries, increasing the contractile power of the muscular coats and bringing it back to the condition more nearly approaching that of health.

Strychnia may be looked upon as a valuable ally and supporter of the action of digitalis. In Dr. Cook's cases, the hourly administration of nux vomica and digitalis had the best effect.

A NEW METHOD OF TREATING RECTAL FISTULÆ.—Dr. H. A. Reeves, in a note to the *British Medical Journal* (vol. i., 1881, p. 917), says that he operated on a fistula about two and a half inches long, dividing it in the usual way and then scraping away all pseudomembranous tissue and granulations with a sharp scoop. Both surfaces of the wound having

been vivified, and hemorrhage having ceased, three deep silver sutures were passed, entering the skin about a quarter of an inch from the edge of the wound, and, passing well beneath the floor of the fistula, were brought out at the same distance on the other side of the wound. The upper stitch ran through the coats of the rectum into the surrounding tissue. These stitches were removed a week after the operation (but might have been removed sooner), when the wound was soundly healed. The patient has been perfectly well since. Dr. Reeves thinks this plan will do away with the painful dressings which have to be resorted to in the common mode of dressing these wounds, and will expedite the cure of rectal fistulæ. All loose folds of skin about the fistulous track must be removed.

THE EFFECTS OF DRUGS DURING LACTATION ON THE NURSLING.—The result of Mr. T. M. Dolan's experimental inquiry into human milk and the effects of drugs during lactation on either nurse or nursling, as published in the *Practitioner*, may thus be summarized. All therapeutical agents intended to act on the mammary gland must first enter the blood, or be capable of stimulating the blood-supply in the mammary apparatus. This principle follows from what we know of the processes involved in the making of milk, and depends on the general principle that nutrition is dependent on the blood-supply. Further, all drugs derived from the families Dilleniaceæ, Cruciferæ, Solanaceæ, Umbelliferæ, etc., enter the blood and impregnate the milk, so that poisons in any of these classes must be administered with caution to the mother or nurse, lest the nursling be injured. Mr. Dolan has furnished instances where dill, aniseed, and conium had this effect. Again, there is no galactagogue in the sense in which it is understood. The nearest approach to such an agent is to be found in jaborandi; but this drug is not persistent in its action, as it only temporarily affects the mammary secretions. There is, however, an anti-galactagogue,—belladonna. The milk also of the mother may be improved in heat-forming elements by the administration of fat, and the salts of milk may be improved by the administration of medicines. Then various physiological actions—purgative, alterative, diuretic, etc.—may be produced in the child by the administration of drugs to the mother, as is well known. Finally, if we are to expect any improvement in milk-secreting power, as to both quantity and quality, we must look to diet for the attainment of that object.

Three nitrogenized compounds, vegetable fibrin, albumen, and casein, supply flesh-forming food. The chemical analysis of these three substances has led to the very interesting result that they contain the same organic matter, united in the same proportion by weight, and, what is still more remarkable, that they are identical in composition with the chief constituents of blood, animal fibrin and albumen. They all three dissolve in concentrated muriatic acid with the same deep purple color, and even in the physical elements animal fibrin and albumen are in no respect different from vegetable fibrin and albumen. In regard to the presence and relative amount of sulphur, phosphorus, and phosphate of lime, no difference can be observed.—*New York Medical Record.*

HYDROCHLORIC-ACID POISONING — RECOVERY.—Dr. MacDonald (*Edinburgh Medical Journal*, June, 1881, p. 1093) was called to see a man who had taken an ounce and a half of hydrochloric acid, presumably in one gulp, as there was no corrosion of the mucous membrane of the mouth or fauces. He had taken, by way of antidote, before the doctor's arrival, a teaspoonful and a half of bicarbonate of sodium, and a bottle of soda-water. Dr. MacDonald immediately gave him a cupful of solution of carbonate of sodium, which was rejected with some coffee-ground-like matter. The patient was then surrounded with hot-water bottles, and was directed to have milk alone as a nourishment. Subsequently the temperature rose to 102°; pulse, 100 to 108. The epithelium of the tongue became leathery and ichthyosed in appearance; and this cleared off on the tenth day. There was complaint of pain opposite the cardiac and pyloric stomachic orifices, and general tenderness over the abdomen. Opium was given for sleeplessness, and turpentine stupes were placed over the whole abdomen. A little diarrhœa of irritation set in, the stools smelling of turpentine. The inflammatory danger over, convalescence was uninterrupted save by a little cough, which succumbed to an ordinary mixture. Dr. MacDonald remarks on this case that it gives evidence of the low corrosive power of hydrochloric acid; the absence of mouth-signs to aid the diagnosis, which might happen in a case where no information could be had as to the poison taken; the diarrhœa of irritation containing absorbed turpentine; and the apparent general result to the patient of only some gastric catarrh, evidence of œsophageal stricture or gastric ulcer being in the mean time wanting.

CARBOLIC ACID IN WHOOPING-COUGH.—Dr. MacDonald (*Edinburgh Medical Journal*, 1881, p. 1094) says that on extended trial he finds carbolic acid, in doses of one-fourth minim to a child of six months, one-half minim for a year, and one minim for two years and upwards, to be the best remedy for whooping-cough. The whoop goes; the vomiting ceases; the paroxysms are modified in intensity and frequency. This result Dr. MacDonald believes to arise from a similar action to that of creasote on the motor fibres of the vagus to the stomach, and from a lowering of vitality of the specific germ of whooping-cough disease. This points to the

antiseptic treatment of the zymotic diseases generally.

BELLADONNA-POISONING TREATED SUCCESSFULLY BY PHYSOSTIGMA.—Dr. Hudson, of New Zealand (*British Medical Journal*, vol. i., 1881, p. 918), in the case of a man who had injected a considerable amount (probably the twelfth of a grain) of atropia hypodermically, gave hypodermic injections of a solution of the extract of physostigma (quantity not mentioned). The patient recovered.

ATROPIA FOR THE PAIN OF CANCER.—Auger (*Edinburgh Medical Journal;* from *Union Médicale*) uses a lotion of 1 part in 1000 of sulphate of atropia, applied by means of a compress wetted with the solution and covered with oil-silk. This gives considerable relief to the pain of cancer without causing dilatation of the pupil or dryness of the throat.

MISCELLANY.

REQUEST FOR SPECIMENS OF SUSPECTED WATER.—Dr. J. W. Mallet, of the University of Virginia, has undertaken, by order of the National Board of Health, a careful study of the chief methods in use for the chemical examination of potable water, so far as organic matter is concerned. It is particularly requested of the correspondents of the Board, of medical men throughout the country, and of others interested in sanitary matters, that any well-marked case of disease which may seem on medical grounds fairly attributable to organic impurities in drinking-water be promptly reported to Dr. J. W. Mallet, University of Virginia Post-Office, Albemarle County, Virginia, with a few lines stating clearly the medical nature of the case and the character of the evidence on which the water in question is suspected of having actually caused disease in persons who have used it. It is further desired that a sample of each such water be forwarded for examination, *but not until notice has been received from Dr. Mallet that the analysts are ready to proceed with it*, since it is important that no useless delay should occur between the shipping of the sample and its investigation in the laboratory. In notifying any one who may be able to furnish specimens of suspected waters that may be forwarded, clear instructions will be sent as to the quantity of water required, and the mode of collecting, packing, and shipping it. It is particularly desired that no case be presented on doubtful or vague evidence, since one important object of the inquiry demands that all such be rejected, and only those cases examined which involve the strongest grounds for believing that mischief has really been caused by organically foul drinking-water.

The cost of packages and transportation for samples will be borne by the Board of Health.—*National Board of Health Bulletin.*

SANITARY EXHIBITION IN NEW JERSEY.—The New Jersey State Fair, to be opened at Newark on September 19, is to have a sanitary annex, as it has had for the two previous years. It is intended to make an attractive exhibition, so that visitors to the Fair may become acquainted with the best sanitary arrangements and inventors and dealers have a good opportunity for comparing and testing apparatus. An abbreviated summary of articles to be exhibited is given in the *National Board of Health Bulletin* for July 9. It comprises construction materials, furniture, wall-paper, etc., heating and ventilating apparatus, drainage and water-supply, bathing apparatus and bath-room fixtures, with gas and other lighting apparatus, druggists' samples and preserved foods, excavating and odorless apparatus, life- and labor-saving apparatus, gymnasium apparatus, sick-chairs and beds and sick-room appliances, food-adulteration and testing apparatus. Letters of inquiry may be addressed to E. A. Osborn, C.E., Middletown, N.J., or to State Board of Health, Trenton, N.J.

ENTERPRISING SURGERY.—The rage for "bold" and "daring" operations seems to have taken complete possession of the German surgeons. Dr. Zeller, of Berlin, proposes to open the trachea as a prophylactic measure during operations, and Dr. Gluck has carried out successfully the complete removal of the bladder and prostate in dogs, and hopes before long to do the same in the human subject.

DEATH OF PROF. PERLS.—The University of Giessen has sustained a severe loss by the death, on May 15, of Dr. Max Perls, Professor of Pathological Anatomy and Director of the Pathological Institute. His fame chiefly rests upon his "Allgemeine Pathologie," completed in 1879.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM JULY 24 TO AUGUST 6, 1881.

HUBBARD, VAN BUREN, CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for four months. S. O. 169, A. G. O., July 26, 1881.

KING, WM. H., CAPTAIN AND ASSISTANT-SURGEON.—Now awaiting orders at Greencastle, Pa., to report in person to Commanding General, Department of the East, for assignment to temporary duty. S. O. 171, A. G. O., July 28, 1881.

TORNEY, GEO. H., CAPTAIN AND ASSISTANT-SURGEON.—The leave of absence granted him from headquarters, Department of the Missouri, June 21, 1881, extended one month. S. O. 76, Military Division of the Missouri, July 25, 1881.

GARDNER, EDWIN F., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty in Department of Dakota, to proceed to Eastport, Me., and on arrival there report by letter to the Surgeon-General. S. O. 171, c. s., A. G. O.

GARDNER, EDWIN F., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—The operation of paragraph 3, S. O. 171, c. s., A. G. O., in his case, suspended one month. S. O. 177, A. G. O., August 4, 1881.

PHILADELPHIA, AUGUST 27, 1881.

ORIGINAL COMMUNICATIONS.

NEURASTHENIA.*

BY ANNA HAYWARD JOHNSON, A.M.,
Orange, N.J.

DEFINITION.—"Neurasthenia is a chronic functional disease of the nervous system, the basis of which is impoverishment of nervous force, waste of nerve-tissue in excess of repair; hence the lack of inhibitory or controlling power, physical and mental, the feebleness and instability of nerve-action, and the excessive sensitiveness and irritability, local and general, direct and reflex. The fatigue and pain that temporarily follow excessive toil or worry, or deprivation of food or rest, are symptoms of neurasthenia from which the chronic form differs only in permanence and degree. Nervousness is really nervelessness."†

Drs. Beard and Stretch Dowse both, to some extent, divide the general neurasthenia into cerebrasthenia (brain exhaustion) and myelasthenia (spinal exhaustion). As it is very doubtful whether one condition can exist without the other, I will consider them together simply as neurasthenia.

Stretch Dowse says, "There are many physicians who attribute the symptoms of neurasthenia to a bloodless condition of the brain or spinal cord. I am quite sure that this opinion is incorrect and cannot be supported by any trustworthy doctrine."‡

Beard says that neurasthenia is generally confounded with general anæmia.

Causes.—Anything that will induce expenditure of nerve-tissue without an equal storing up of new material will necessarily cause nerve-exhaustion. Super-activity and development of the nervous system must, without doubt, be the primary cause of such a condition. Civilization, consisting as it does in a sovereignty of the nervous and mental over the purely muscular and animal activities, can therefore claim as an outgrowth neurasthenia.

It is pre-eminently a disease of American civilization; for, whatever may be the cause, the fact is undoubted that American life consumes nervous force more rapidly than that of any other nation. Adult Americans of the upper and middle classes, as a rule, live on the principal, not the interest, of their strength.

Dr. Van Deusen, Medical Superintendent of the Michigan Insane Asylum, says, "Among the causes, excessive mental labor, especially when conjoined with anxiety and deficient nourishment, ranks first. Prolonged exposure to a malarial region may induce it; also great responsibility, with deprivation of sleep."

Dr. Stretch Dowse emphasizes the "heredity of nervous constitutions, which are especially liable to exhaustion and fatigue," as a predisposing cause of neurasthenia. Dr. William Erb says it generally occurs in neuropathic families. Stretch Dowse also says, "I believe that many severe cases of exhaustion of the brain are brought about by not paying sufficient attention to sleep and rest. Excessive fatigue, overwork, worry, sensuality, mental anxiety, shock, grief, are among some of its most important causes."§

"Professional men, and especially clergymen, seem to be more prone to these attacks than others, and it is not an easy matter to assign any especial reason for this. It is quite certain, however, and I believe it is a generally-admitted fact, that the performance of constant routine work without adequate change exercises, although perhaps inexplicably, an undue tension upon the nervous system and nervous centres, which in course of time leads to instability and exhaustion." The law of nature demanding to a certain extent equal development of all the faculties might suggest an explanation of this result.

So-called "cramming" is a potent cause. Stretch Dowse speaks thus strongly: "It is simply a blot upon advancing civilization. It is opposed to all biological laws,—social, moral, hygienic, ethical, physical, and rational."‖

Local diseases, especially of the digestive and of the reproductive organs, are frequent causes. They act as constant irritants to the nerve-centres, and reflexly on the whole nervous system. Sexual excess and abuse are powerful and frequent causes of many of the worst forms of neurasthenia; al-

* Inaugural Thesis, Woman's Medical College, March, 1881.
† Nervous Exhaustion, Beard, p. 115.
‡ Neurasthenia, Dowse, p. 16.
§ Neurasthenia, Dowse, p. 14.
‖ Ibid., p. 42.

though Dr. Van Deusen's experience has led him to an opposite conclusion. Long-continued strain from optical defects has, within a few years, been recognized by those highest in authority as a very frequent cause of nervous exhaustion.

Method of Examining Cases.—We see from the definition of the disease that its symptoms must be largely subjective. The patient and physician must, in the highest degree, work together. The physician necessarily has only the statements of the patient with regard to many symptoms, as data from which to diagnose the case. Knowing how few people can be perfectly truthful witnesses on subjects of special interest to themselves, we must expect to give unwearied patience to eliciting testimony of a subjective and also pathological character. "The effect of this scientific analysis of cases is not to make our patients hypochondriacal, but to remove their hypochondria. The worst enemy of the emotions is the intellect." (Beard.)

As a knowledge of the condition of the different organs is necessary, we must often have the aid of skilled specialists, as oculists and gynæcologists.

Symptoms.—I have found it impossible to classify the symptoms. I will, therefore, follow Dr. Beard's method of describing those of the head first, and going down to other parts of the body. Many of these symptoms I have seen; others I find described in the works of Beard, Stretch Dowse, Beard & Rockwell, Dr. Van Deusen, and in the writings of Bartholow, Flint, Niemeyer, Fothergill, and others. By the latter they are often considered as idiopathic diseases, or as symptoms of structural trouble. Only wide experience could enable one to decide between these conflicting theories.

Tenderness of the Scalp.—Dilatation or Abnormal Activity of the Pupils.—Inequality of the pupils is also a symptom of structural brain disease, but in that case the transitory character of a neurasthenic symptom is wanting.

Sick-Headache.—In certain cases this is the most troublesome expression of the neurasthenia. Fothergill says that in cerebral exhaustion the pain may be frontal, parietal, vertical, or occipital. According to Beard, attacks of sick-headache are safety-valves, preventing other nervous symptoms. Sudden cessation of attacks of sick-headache, without some improvement in the general condition, may, it is said, be the forerunner of severe structural lesions. They are apt to cease after fifty years of age.

Flint evidently directs his treatment of sick-headache to nerve-exhaustion. Niemeyer says that it is often caused by "mental excitement." To have a pathological effect, excitement must be over-excitement, which in this case would mean mental or nervous exhaustion.

Pain, Pressure, and Intense Heat of Vertex.—Symptoms particularly found in the exhaustion of the nervous system attendant upon the menopause, but not confined to that condition.

Expression of the Eyes.—Congestion of Conjunctiva.—Disturbances of Nerves of Special Sense.—Here we have "asthénopie asthénique," showing in the most thorough examinations no lesions sufficient to cause the attending symptoms. Weir Mitchell says he very seldom meets cases of nervous exhaustion without this symptom. Specks, bright flashes, and shadows before the eyes often accompany a slight form of nervous exhaustion. In one case which I have seen, these symptoms come on to a distressing extent after exhaustion amounting only to ordinary fatigue. Subjective noises,—a crackling in the ears, sometimes preceded by numbness amounting to partial deafness. Subjective odors and idiosyncrasies of the sense of smell. A weak or atonic voice.

Deficient Mental Control.—An inability to keep the mind fixed on a given subject: abnormal forgetfulness. The patient, while endeavoring to concentrate his thoughts on a matter that may be of intense interest to him, suddenly finds that he is in the midst of a waking dream. Sometimes the thought of brain-work bringing with it responsibility causes an utter inability to follow a connected line of thought. The patient even after repeated re-readings of a paragraph is unable to retain the slightest idea of its subject. Is not the entire lack of profit from hours of close study done by many students, medical as well as those who are expected to know less of hygiene, caused by this condition? "They find the brain is master and not themselves."

Mental Irritability.—Analogous to the lack of mental control, indeed only a different manifestation of the same symptom, is mental irritability. This is often

the natural habit of mind, irritability and general "total depravity" of temper; but a differential diagnosis can be made with comparative ease.

Hopelessness. — "An instinctive consciousness of inadequacy to the task before us." (Beard.) In organic diseases the opposite condition is apt to exist, and in neurasthenia the presence of this symptom would largely depend on the state of mental control of the patient, and on a clear understanding of his own case. It is a distressing symptom, which ought to be quickly ameliorated by a wise physician.

Morbid Fears.—Until recently the various forms of morbid fear have been considered as hysteria, hypochondria, dyspepsia, biliousness, or even insanity. If accompanied by delusions, they are found in insanity. Drs. Beard, Erb, Westphal, Weir Mitchell, and others, have recently diagnosed them as symptoms of neurasthenia. "The patient knows there is no just objective ground for his fear, but his emotional nature, under the influence of his exhausted nervous condition, overcomes his reason and will." (Beard.) The same author says they are never found in structural nervous disease. Niemeyer and Fothergill, though making no such assertion, lead negatively to the same impression. One form of fear, pathophobia, or fear of disease, is of particular interest to us. Authors differ as to the cause and nature of what most of them consider the disease of hypochondriasis. Beard classes under pathophobia only those cases in which the symptom is recognized by the patient as being merely morbid fear: where there are delusions and hallucinations he calls it insanity. Flint says that, although a mental aberration, it does not amount to insanity. He recognizes the two classes. Although considering it an idiopathic disease, he says, "The morbid conditions often existing in hypochondria and more or less concerned in its causation are various. Among these may be mentioned anæmia, *nervous asthenia*, and dyspeptic disorders." Niemeyer calls it insanity, and speaks of only one class of cases, those in which there are delusions.

Fidgetiness. — This, like specks and flashes before the eyes, may be a habit of life; but even then it is a symptom of nerve-exhaustion, occurring when the patient is fatigued or over-strained from lack of sleep. In one case under my observation it comes on severely during the night, preventing sleep, and is only relieved by vigorous rubbing.

Insomnia.—This condition, reacting as it does on its cause, by preventing one of the most important factors of nutrition,—*rest*,—deserves especial attention. Sleep is probably caused either by a physiological anæmia of the brain, or, according to Foster and other physiologists, by purely molecular changes in the brain, the accompanying anæmia being an effect. In accordance with the first theory, neurasthenia would act to produce sleeplessness by causing vaso-motor paresis, thus bringing about dilatation of the cerebral vessels. If the second be correct, as the character of the "purely molecular changes" is unknown, so would be the exact change caused by nerve-exhaustion. Reference to different authors leaves us in no doubt as to the existence of insomnia arising from neurasthenia, although the explanations of the condition are various.

Drowsiness.—This may be a demand of the system for more sleep. Dr. Van Deusen says there is often a functional derangement of the kidneys, as evidenced by a marked increase of urea in the urine. The drowsiness he attributes to this cause.

Nervous Dyspepsia.—In many cases this is the first noticeable symptom of the neurasthenia. It is diagnosed from other dyspepsias by these peculiarities: it is temporarily relieved by eating; it accompanies other nervous symptoms; it yields readily to nerve tonics, the bromides, and electricity. Stretch Dowse speaks of severe flatulent dyspepsias the result of anxiety and worry.

Deficient Thirst, and Inability to Assimilate Liquid.—The body contains 87 per cent. of water. The amount used by a healthy man in twenty-four hours is about eighty ounces. Any condition which would cause the supply to fall much below this normal standard must necessarily act seriously on nutrition. It tends towards "mummification." "A mummy, which is the body of a man minus water, is a very different thing from a body containing its natural proportion of water." (Dr. Meigs on "Thirst.")

Desire for Stimulants and Narcotics.—The craving of body and mind for anything that will give strength and ease leads in a large number of neurasthenic patients to confirmed inebriety and opium-

eating. Drs. Beard and Stretch Dowse consider this the principal cause of the great increase of opium and alcohol drunkards.

Abnormalities of Secretion.—There is in some cases dryness of the skin, in others excessive secretion, both due to lack of normal stimulus from the governing nerves. The latter is often very troublesome, sometimes general, more often confined to hands or feet.

Spinal Irritation.—This accompanies other neurasthenic symptoms in not a few cases. It is generally considered an idiopathic disease; but the strongest arguments are certainly in favor of its being a symptom of neurasthenia.

General Hyperæsthesia.—This frequently takes the form of sore spots over the superficial bones. It is interesting to note, in this enumeration of symptoms, how many of them we experience ourselves, in less degree, as sequences of fatigue (acute neurasthenia).

Pain, Aching, and Heaviness in the Loins and Legs.—Beard says that sometimes there are present severe, lightning-like, shooting pains, simulating those characterizing locomotor ataxy. Stretch Dowse has been led to a different conclusion. The cases in which this symptom was present have, in his practice, proved that sclerosis of the cord was commencing.

Podalgia, or Pain in the Feet.—One case that I have seen has had, for two years, severe pain in the anterior portion of the ball of one foot. We would expect to find an *Irritable Heart* in this general lack of nervous power. There is often a self-diagnosis of heart disease.

Tremors of Certain Muscles.—This has in one case under my observation become chronic in the muscles of one side of the face. Niemeyer says the course of *tic convulsif* is usually chronic. Beard thinks that chronic cases are generally due to some organic lesion. Analogous to the last symptom are *convulsive movements on going to sleep.* This is another symptom often seen in acute neurasthenia, or fatigue.

Cramps.—Beard attributes the cases of so-called idiopathic cramp, as "scrivener's spasm," etc., to neurasthenia. Niemeyer says "we are unable to point out the anatomical cause," and further on speaks of the "occurrence of muscular spasms during the course of and convalescence from acute and chronic disorders which have an exceedingly pernicious effect upon the assimilation and nutrition of the body." Such cases certainly point to neurasthenia as a cause. These patients are subject to *special idiosyncrasies*,—great sensitiveness to heat or cold, or to certain articles of food or medicine. I have seen several cases in quite good health who, at times, cannot put their hands in cold water without the fingers turning white and numb. There is also a general sluggishness of the circulation, due apparently to lack of vasomotor tone.

Tendency to "go to sleep," or to a localized numbness, is almost always present. The arms, or more frequently but one, may become numb simply from pressure on the bed, waking the patient with the feeling of weight and discomfort.

Profound exhaustion coming on suddenly without apparent cause, *excessive ticklishness, itching, general and local chill and heat,* and nervous chills closely simulating regular malarial paroxysms, are not infrequent.

Neuralgia.—The neuralgias in many forms are often present. They differ from what we might call structural neuralgias in their almost constant change of position.

Beard and Stretch Dowse emphasize the fact that all of these symptoms, and indeed many others, are often present in individuals having the appearance of vigorous health. It is very important to realize that severe neurasthenia is compatible with great muscular development and physical endurance.

Differential Diagnosis.—The importance of making a correct differential diagnosis between functional and organic nervous disease cannot be overestimated. In general, prognosis and treatment are directly opposite. It necessarily is extremely difficult, since many of the symptoms are identical. In the majority of cases only prolonged study of them will enable the most experienced physician to feel sure of his diagnosis. I think Dr. Beard strikes the key-note of diagnosis when he says, "The tendency of neuropathology is not toward but away from the idea of single pathognomonic symptoms. It is by considering groups of symptoms in their relation to each other and to the history of the case" that a diagnosis can be made. Structural as well as functional nervous troubles must of course be perfectly familiar to the physician.

Dr. William Erb says, in speaking of

diagnosis, "The decision will be based chiefly on the great disproportion between the acute subjective complaint of the patient and the almost negative result of objective examination." (Ziemssen, vol. xiii. p. 378.) Dr. Beard gives four general points which I think would be of use to one entering upon the study of this class of cases. They are:

1. The symptoms of organic disease are usually fixed and stable, while very many of those of neurasthenia and allied states are fleeting, transient, metastatic, and recurrent.

2. There are certain, though not well-known or always recognized, symptoms of neurasthenia which do not often, if at all, appear in structural disorders. Among these are general and local tenderness, fidgetiness, sick-headache, asthenopia, flushing, morbid desire for stimulants and narcotics, hopelessness, hypochondria, and morbid fears.

3. In organic disease reflex activity is generally diminished; in functional disease reflex activity is generally increased. This accounts in part for the immense number and variety of symptoms from which the neurasthenic suffer.

4. Neurasthenia and allied troubles are most likely to occur in those in whom the nervous diathesis predominates.

Stretch Dowse puts in the category of probable organic cases many of those showing the more severe symptoms which Beard considers purely functional. The necessity for endless study and experience cannot be too strongly insisted on.

A differential diagnosis must also be made between cerebrasthenia (brain exhaustion) and myelasthenia (spinal exhaustion). This has not yet been satisfactorily done. Stretch Dowse thinks that one condition cannot exist without some degree of the other. This seems highly probable. Still, it is necessary to recognize, if possible, which condition predominates. Neurasthenia must also be differentiated from its allied affections, as hysteria and the like; from anæmia; from certain manifestations of syphilis and various other organic lesions not primarily nervous.

Prognosis.—Favorable under proper treatment, according to Drs. Beard, Weir Mitchell, Erb, Van Deusen, also, to a more limited extent, according to Stretch Dowse. It depends largely on the hereditary diathesis of the patient. Dr. Van Deusen says, "We cannot but regard the early recognition of this condition as of special importance, convinced that properly-directed treatment will, in the majority of cases, stay its progress." Whether we shall be obliged to give a prognosis of organic lesions is a point on which authorities differ. Stretch Dowse says, "I have no hesitation in asserting it to be my firm belief that many of the incurable cases of insanity, locomotor ataxy, progressive muscular atrophy, and many other diseases of the brain and nervous system, commence as a neurasthenia of nervous centres, and when in this state are quite amenable to treatment." Beard does not entirely agree with him, and still cannot deny that "neurasthenia neglected, exasperated by bad hygiene or by bad treatment, may be the precursor of certain forms of insanity." The list of possible sequelæ is as long as a knowledge of the essential nature of the disease would indicate. It is comforting to know that most of them follow *neglected* neurasthenia. The most serious are the following: insanity, especially in the form of melancholia, hysteria, congestion of the kidneys in various forms, exophthalmic goitre, diseases of the reproductive organs and other animal functions, may all be found following neglected neurasthenia, inebriety, and opium-eating.

Treatment.—The two general indications for treatment are want of rest and of nutrition. More accurately speaking, rest is only one means of securing nutrition, but for convenience I shall consider treatment under the two heads.

Rest.—I speak of this first, because I believe that without it all the dietetic and therapeutic measures which could be planned and carried out by a world's congress of physicians would be of no avail. Its attainment is in all cases the first consideration. Symptoms may be ameliorated, but a cure cannot be made without it. By rest, I mean all degrees, from the absolute seclusion and rest as sometimes practised with almost marvellous success by Drs. Weir Mitchell, Charcot, Goodell, and others, to simply removing the cause of over-strain of the nervous system. The former extreme measures are particularly indicated in cases where certain mental characteristics of the patient or of his friends, or certain conditions of home life, render it impossible to attain real rest without them.

The latter equally extreme could only be indicated where the nervous exhaustion is beginning, and the recuperative power of the patient still capable of doing some extra work. The first thing to be done under all circumstances, if possible, is to remove the overwork, anxiety, or mental strain which is present. Of course, by overwork I mean work that is over or above the amount easily accomplished by the patient in his present condition. Mind and body must be put at rest. What constitutes this rest can only be decided in each individual case. One point of great importance in treatment is that no two cases can be treated alike. Each is a study in itself. It must often be very difficult to bring about this necessary change in nervous work, because these very anxieties, responsibilities, and strains of the nervous system are generally so intimately woven in the texture of the daily life of our patients. It will require, on the part of the patient, perfect confidence in the physician; on that of the physician, power to read the moral and mental as well as physical character of the patient, great delicacy of mental touch and expression, and fine tact. Under the question of rest comes that of travel. Such patients are often advised to travel; but it is almost invariably worse than useless. It is, while travelling, impossible to have the regularity in rest, sleep, and food which is of so much importance in these cases, as Stretch Dowse says. Besides that, the meeting strange people, the unseen friction kept up between human beings, is a constant drain on the nervous system. The sight-seeing and intense interest awakened by change of surroundings, though serving to keep the patient's mind off himself, use a large amount of nervous energy. The only kind of travelling that would seem adapted to this class of cases would be long sea-voyages taken under favorable circumstances. The subject of climatic influence might properly be considered here. Stretch Dowse advises cold, bracing, dry climates, never warm ones. He speaks particularly of the valley of the Upper Engadine as being well adapted to neurasthenics. Beard prefers cool mountain-air, but says that warm climates often act as well in these cases as in phthisis. That they should do so seems reasonable, for in them the body is put more entirely at rest, less nutritive energy being required to keep up the normal temperature.

A special and exceedingly important means of securing this necessary rest is the relief of that too common symptom, sleeplessness. We must give the patient sleep in some way. If the symptom quickly yields to the general treatment of the neurasthenia, the case is a very hopeful one. But we cannot wait too long for this result of general treatment. In speaking first of the simple and, if successful, better measures to induce sleep, easily-digested food taken on retiring is one of great value. Half a glass of milk, with a little sherry or whisky if alcohol is well borne, or a glass of Bass's ale, will often insure a good night's rest. While exercise in the evening is one of the best soporifics for the healthy man, the neurasthenic patient is still more exhausted and his trouble increased by it. Drs. Beard and Rockwell have found that electricity, not applied with special reference to this symptom, almost invariably exerts a beneficial influence. "The temporary relief, though far less potent than that of bromide and chloral, is decided. The permanent relief comes gradually and slowly, but surely." The bromides may be resorted to in some cases, or chloral, or opium. Stretch Dowse depends largely on opium, not only for the relief of this symptom, but for the general treatment of neurasthenia. Hammond has found that in some cases the upright position will induce sleep. This, of course, would be where cerebral hyperæmia was present. The physician's ingenuity must often be taxed in combating this symptom, and here, as everywhere, experience is of incalculable value.

Nutrition.—Under this head I will consider the remaining points of treatment,—viz., diet, drugs, and general hygiene.

Diet.—In ill health the natural instinct of hunger as a demand of the body for needed nutriment cannot be relied on. The patient must be guided by certain rules, and, as Dr. James Henry Bennett says, "Those rules which guide us in ill health must be founded on a knowledge of what occurs in health." He says, "The popular idea with regard to food in ill health that it is synonymous with strength is a fallacy and a delusion." The actually accomplished elaboration and assimilation of the food taken is synonymous with strength. The principal indication under diet is to give all the nutrition which is

required to restore the body to perfect health, and to give this in such form and manner as to use as little force as possible in accomplishing the desired end. We must, therefore, give the most easily digested and nutritious food in as large quantities as the system will assimilate. Stretch Dowse feeds some of his patients every hour, with no reference to the kind of food taken. A varied diet is generally best, although the so-called milk-diet, as tested especially by Weir Mitchell, is applicable to some cases. The whole milk is best, where it can be digested, for, as Beard says, one of the great wants of the day is an increase of fat in the food. Remembering that animal food is more condensed nutrition than vegetable and should therefore be the principal, but, except in certain cases, not the sole, article of diet, that, as James Henry Bennett says, "Density of structure is one of the principal conditions that regulate the digestibility of both animal and vegetable food," and that the digestive system requires a certain amount of absolute rest, we have the general principles from which to develop special plans of diet for individual cases. Where there is overfeeding, the urine betrays it by an abnormal precipitate of urates.

General Hygiene.—"If we analyze the fundamental laws of hygiene, we shall find that they are all subservient to perfect nutrition,—indeed, are inseparably connected with it." Exercise, physical and mental, air, light, and clothing, are important elements of treatment. The question of exercise, from the massage used in the "rest cure," to vigorous mountain-climbing for a slightly exhausted brain, must be decided for each case. Fatigue must in all cases be avoided. In all forms of exercise, remember that to a certain extent slow movements build up, fast ones tear down. In many cases some degree of mental work is advisable. An occupation that will combine pleasant recreation and useful work will best meet the indications. For perfect nutrition we must have plenty of oxygen. Let the patient live in the country if possible; at least the dwelling-house must be well ventilated, and the sleeping-room supplied with air, pure, though not too cold. During sleep the skin is relaxed, and the general power of resistance reduced to its lowest terms, so that the temperature of the room should not fall many degrees below that of the day. Let him have all the sunlight possible. Dr. Edward Smith, of Brompton Hospital, England, has found that under the influence of sunlight one-third more air enters the lungs than in darkness or artificial light. Under hygiene would perhaps come a form of treatment called by Weir Mitchell "camp cure." I know by experience that modified forms of this life will in many cases secure favorable results.

Clothing must be thoroughly loose, light, and warm. Too much clothing is debilitating. Cold or tepid sponging and modified massage will do much towards keeping up the heat of the body.

Drugs.—Nerve tonics are of course principally indicated. Van Deusen has found quinine the most efficient; but his experience has been in a malarial district. Stretch Dowse depends largely on opium. Beard ranks opium with chloral and alcohol as of value, but much overused and attended with danger. He uses electricity,—hardly a drug, but certainly a nerve tonic,—ergot, arsenic, cannabis indica, caffeine, zinc combinations, the latter particularly useful in choreic manifestations. Bromides in large doses for a short time.

Weir Mitchell uses iron in many cases. Cod-liver oil is often of much benefit. Although electricity has in different hands given varying success, the best results have been with those who have used it most scientifically and thoroughly. Phosphoric acid and the phosphates, also extract of malt, are often good remedies.

It is an almost invariable rule that all remedies are more effectual in this condition if frequently changed or stopped. For instance, sedatives one week, tonics the next, then perhaps nothing for a few days. This plan has been thoroughly tried by Dr. Beard, and in some cases under my observation remedies used in this way have acted satisfactorily that could not have been taken for any length of time continuously.

There is still a wide field open for investigation in the special sequence of remedies, as indicated by the sequence of symptoms in the disease; for, although treatment must always be directed to the general condition, different remedies have almost specific actions in the different stages or manifestations of the disease.

We owe our knowledge of neurasthenia very largely to Dr. Beard, and, as he says, one might graduate from all of our colleges, be well read in general medical literature, and have had dispensary and hospital experience, without having learned anything of this wide-spread, American, functional nervous disease. If it increase in the future as it has in the past, keeping step with civilization, we can comfort ourselves with knowing that, notwithstanding the truth of the above statement, the medical profession are recognizing the existence of such a condition, and that greater advance has been made in this direction in the past quarter of a century than in almost any other department of medicine.

CLINICAL NOTES OF A CASE OF TWIN PREGNANCY.

*Read before the Philadelphia County Medical Society, March 9, 1881,**

BY ALBERT H. SMITH, M.D.

IN bringing this case before the Society it is not proposed to exhibit a unique case, nor one which would be at all extraordinary in its features to the active obstetrician, but merely to present to the general practitioner a case combining a number of features for study, which may impress upon the mind some important points in obstetric theory and practice.

In September last I was called to see a patient in the eighth month of gestation, her last menstruation having ceased January 24 preceding. It was her sixth pregnancy, and during each she had been the subject of much gastric and neurotic disturbance, and at the end of all, except one, delivered by forceps with some difficulty, in the second by craniotomy. During the present pregnancy her general discomforts, and especially her gastric disturbances, had been extraordinarily great, the whole summer and the latter part of the spring being passed in continuous nausea, frequent vomiting, great epigastric distress, sense of abdominal tension, anorexia, invariable suffering after eating, variations between obstinate constipation and profuse diarrhœa, and, as she described it, an utter *malaise* and moral depression, which unfitted her for the enjoyment of all social and family relations and disabled her from the performance of the ordinary domestic duties. As I was absent from home, and she regarded these conditions as merely incident to an advancing pregnancy, she consulted no one about them, took such little palliatives as her past experience suggested, and waited patiently in suffering until my return.

On the 7th of September I was sent for to see her, and found her in a really alarming condition, although not aware herself of the seriousness of her ailments. Up to this time she had been out of town, and came in to see me, expecting to return at once; but her condition was such that I insisted upon her remaining quietly at her house, away from the cares and annoyances of family duties, and so that I could have her under constant observation.

When I first saw her, she was anæmic, waxy, œdematous over her whole surface; the legs greatly swollen, and the hands and face much so, and the whole body presenting marked evidences of anasarca. The pulse was 110, feeble, and quick; the skin dry and harsh; the tongue with a slight fur upon the back part, but elsewhere intensely red, with a marked development of the papillæ, and its surface traversed by deep fissures running longitudinally, very sensitive, painful to the touch or upon motion in the mouth or in the effort at protrusion, and causing her such great distress in eating that she had abandoned the use of solid food from necessity, as well as from disgust for it. Her appetite was altogether gone, and she was living on milk and beef-tea from a sense of duty rather than from any sense of need. Nausea was almost constant, and vomiting very frequent. Epigastric pain and tenderness were marked, and the peculiar feeling of distress in the pit of the stomach, that indescribable, vague sensation so characteristic of the uræmia of pregnancy, was added to the many other discomforts. The bowels were obstinately constipated, the saline and other laxatives being required in large doses to have any effect. Locomotion was very slow and difficult, partly from a muscular soreness, and partly from the very great abdominal distention, with its attendant embarrassment and awkwardness. Dull headache was persistent; drowsiness during the day and wakefulness at night

* This paper has been unavoidably delayed, and consequently appears at a later date than the other papers read at this meeting.

habitual. Vertigo and dizziness often compelled a sudden resort to the recumbent position; and during these attacks the characteristic retinal perversions would cause great alarm,—the field of vision being limited sometimes by a vertical line, sometimes by a horizontal, and sometimes the sight completely lost. Numbness and loss of tactile sense in the fingers, and occasional loss of distinct articulation, were experienced. Altogether, the symptoms attendant upon marked renal trouble were about as decided as often seen. The urination was frequent and scanty.

Upon examination of the urine, it was found by heat and Heller's test to contain fully three-fourths of its bulk of albumen, —by the former, some specimens completely solidifying in the test tube.

I placed the patient at once upon an active course of purgative, diuretic, and tonic treatment, varying the remedies from time to time according to the indications presenting. Under the influence of iron and quinia, her tongue became less sensitive, and lost to some degree the condition above described, so that she was able to take food with rather more comfort; a pill of podophyllin, with nux, aloes, and Tyson's antimonial powder, taken at night, kept the bowels regulated; sodium bromide abated the nervous and cerebral symptoms and relieved the sleeplessness. The diuretic measures were, however, of no avail; digitalis, the alkalines, the old and admirable combination of calomel, squill, and digitalis of the first Dr. Pepper, Basham's mixture, and other ordinary renal evacuants, called forth no response from the kidneys. Benzoate of sodium was followed by a slight increase in the secretion, but no diminution perceptibly in the albumen.

On the 2d of October I decided to try a combination of benzoic acid and lime, basing my hope of gain upon the reputation of the benzoic acid, so confidently recommended by Prof. Charles D. Meigs, and some excellent results I had had formerly from large doses of lime-water in Bright's disease, following the suggestion of some Belgian physician, whose name I cannot now recall. I had Mr. Shinn prepare me a combination of benzoic acid with carbonate of lime, triturated with a little water until effervescence ceased, in proper proportion to form a calcium benzoate, and the resulting paste was placed in Planten capsules, divided into about ten grains each, and was administered in this dose every two hours during the day, beginning in the early morning and continuing till bedtime, so that about eighty grains were taken daily. The result of this treatment was successful beyond my expectation. The laxative pill and the use of the bromides when needed were still kept up, but all other treatment suspended. The amount of urine increased steadily from day to day, and the amount of albumen steadily diminished, until by the 12th it had entirely disappeared. And in proportion to the renal alteration was a change in the general condition and the special symptoms apparent, so that by the time the albumen had disappeared, the only marked signs of disturbance were those necessarily present from the great abdominal distention and pressure upon underlying organs. On the 13th, feeling so much better, and having become disgusted with the constant daily administration of the capsules, the patient begged to be let off from them, to which I consented. For some days there was no decided deterioration of condition; but five days later I saw her, and found that the œdema was decidedly increased, and all the special distresses aggravated, and that she was fast returning to the state first described. On examination of the urine, which had diminished very much in quantity and was more frequently voided, I found the albumen again developed by the tests, though in very much less amount than before. I placed her again on the use of the salt of calcium, which by this time Mr. Shinn had prepared in a separate, beautifully crystallized form, which was found to be soluble to the extent of ten grains to the tablespoonful of water. The same dose was given, and I had the satisfaction of seeing the albumen again disappearing, with the same proportional alleviation of general and special symptoms. On the 22d the patient fell in labor, and the whole combination of ailments rapidly disappeared after her delivery. Not feeling warranted by her condition in insisting upon catheterizing her to examine the water free from any lochial discharge, I had no opportunity of getting it until about the twelfth day, when all signs of albumen failed to be detected.

We will now return to the conditions of the pregnancy which may be regarded as the legitimate causes of these many troubles.

On the 27th of September I made a preliminary examination by abdominal palpation, as is my custom during the last month of gestation in the case of all pregnant women under my exclusive care, to ascertain the positive presence of a fœtus and its relation to the uterine cavity. I soon detected the signs of a twin pregnancy; the great size of the abdomen, its peculiar shape apparent to the eye, irregular and flattened in the median line, would give ground for suspicion. But upon careful abdominal examination the fact became fully established, palpation showing the presence of distinct bodies, with the four large extremities, two near the pelvic entrance and two near the fundus. A firm mass, recognized by its impression given to the hands grasping it between them from side to side as a fœtal head, lay immediately above the brim; the fingers of the left hand, with their tips pressed towards the brim in the left groin, came upon the prominent abutment formed by the chin, while the fingers of the right hand could trace the continuous dorsal plane from the occiput along the nucha and back of the fœtus till it reached the breech in the right lateral region of the uterus below the fundus; from this mass passing towards the median line of the abdomen were easily recognized the thighs and legs, their mobility and outlines being readily distinguishable through the central abdominal wall. But above these, again, towards the fundus, to the left of its median portion, was detected another large mass, whose round, uniform surface and firmness on compression showed it to be another fœtal head, from which a dorsal plane could be traced downward upon the left side, looking anteriorly and terminating above the left groin in the larger but more compressible mass of the breech; the lower extremities of the fœtus were not so easily appreciable, being directed posteriorly and a little behind the body of the first discovered. Auscultation gave two points of maximum intensity to the fœtal heart-sound,—one upon the right side of the median line below the umbilicus, and the other far over beyond the median line upon the left and a little above the umbilicus. I had thus a clear evidence of the presence of two fœtuses, which upon pressure in the median line of the uterus could be entirely isolated,—the one presenting with its head towards the pelvic brim and its dorsum lying posteriorly and to the right, the other with its head near the fundus, its dorsal plane towards the left side anteriorly, the breech under the left groin. The maternal *bruit* was not clearly distinguishable. The patient fell in labor on the morning of the 22d of October, at two o'clock A.M. I saw her at four o'clock, the os being about half open; a head was presenting well down in the brim, with the occiput posteriorly to the right. Abdominal palpation showed no change in the condition previously diagnosticated. At five o'clock A.M. the water discharged, and ten minutes after the fœtus was expelled. Knowing that there was another fœtus, I did not leave the ligation of the cord, as usual, till after the delivery of the placenta, but tied it in two places, cutting between as a precaution against possible bleeding from intercommunication of the two placentæ. On digital examination I found the cervix reconstructed, instead of the flaccid dilated condition found after the expulsion of the fœtus in an ordinary simple pregnancy, there being a firm closed conical neck restored, with about half dilatation; the presenting part of the second fœtus was entirely out of reach. Abdominal palpation revealed a transverse position of the child, the head lying in the right iliac fossa, the breech in the left. The membranes being still unbroken, I easily corrected the deviation. Standing with my back to the patient's face, my right hand made firm but gentle pressure above the right groin upon the head-globe downward and inward towards the median line. At the same time pressing the flat palm of the left hand below the prominence of the breech in the left groin, with its whole surface applied firmly but gently, I made an oblique pressure upward and inward, with a slow vermicular movement, which caused the breech gradually to ride up upon the left uterine wall, as upon an inclined plane, until it reached a point about the middle of the long axis of the uterus, when it slipped quickly upward, and the head, being left free to move towards the median line, under pressure of the right hand, still kept up steadily, glided downward into the pelvic brim. Holding the head in position at the brim with the left hand, and making firm pressure upon the uterus with the same arm, in order to render the membranes tense, I carried the index finger of my right

hand through the os uteri and tore through the membranes; the water discharged, the uterus contracted firmly upon the body of the fœtus, and fixed it in the normal position, and the trouble was permanently removed. The uterine contractions showing a disposition to inertia, I administered fifteen grains of quinia, which again roused them into activity, and at seven o'clock the second fœtus was expelled.

I then made a firm grasp upon the uterus, which soon was well contracted, but, as might be expected with twin placentæ, very large. The placenta not being at once expelled, I made an examination, and found it still firmly implanted upon the posterior wall of the uterus, just within the internal os, the lower margin being within easy reach of the finger. After continued expressive effort upon the uterus, the placenta was displaced and expelled beyond the vulva, although the uterus still remained large. Finding a firm band of membranes passing from the margin of the placenta into the vaginal cavity and resisting any reasonable traction effort to withdraw them, I followed them with the finger up into the uterus, when I found that instead of diminishing in bulk they increased into a large mass of membranes which again terminated in the margin of another placenta attached upon the posterior wall of the fundus. Continued manipulation and expression gradually displaced it, and it was expelled. Upon examination the two placentæ were found connected by a firm cohesion of a portion of the chorial surfaces, separable, however, easily by the finger.

The babies weighed eight pounds each, and were well developed, though not very vigorous.

An injection of hot water, carbolated, caused a firm contraction of the uterus, with no subsequent relaxation, and the puerperium was attended with no complication.

In the history of this case there are presented some points worthy of study, to which I will briefly call the attention of the members of the Society.

Not least among these is the value of this case as showing the influence of abdominal tension as a cause of albuminuria. That there is a predisposition in some patients to the production of renal disturbance from the condition of pregnancy alone, showing itself early,—before any possibility of pressure acting as a developing cause,—there is no doubt; and that in women who have already shown evidence of beginning Bright's disease, the occurrence of pregnancy becomes an aggravation, and is attended by a rapid increase of symptoms, is also well known; but it is none the less a fact that the acute Bright's disease of pregnancy, independent of the presence of an excessive abdominal tension, and consequent persistent and extreme pressure of the enlarged uterus posteriorly upon the abdominal vessels, is altogether exceptional. In other words, that it is a rare thing to have albuminuria, with its attendant anasarca and subsequent menacing of eclampsia, except in primiparæ, when the abdominal walls refuse to relax before the distending force brought for the first time to bear upon them, or exceptionally in multiparæ, where from some preternaturally rapid or extreme enlargement of the uterine tumor in the latter months of gestation, subjecting the abdominal walls to much more violent distention than in any previous pregnancy, the same result is brought about. Such cases are found in multiple pregnancies, and in excessive amniotic dropsy. In the patient under notice in the five previous pregnancies no renal symptoms had developed, even in the first; nor in the interval between this pregnancy and the preceding was there any deviation from a normal standard of health. Yet at about six months of gestation, when she began to suffer from a sense of great abdominal tension, the evidence of renal disturbance began to show itself, and became steadily more alarming, except when held in partial control by treatment, until the emptying of the uterus, after which it rapidly disappeared, the urine being at the end of twelve days entirely clear of albumen or casts.

In connection with this point it is worth while to call attention to the beneficial effects derived from the calcium benzoate, which could not be looked upon as a mere coincidence, dependent upon relief of pressure from uterine subsidence, nor upon the influence of other remedies, inasmuch as the renal symptoms abated steadily from the time of its administration, and began to increase again so soon as it was suspended. My experience with it in other cases has confirmed my belief that it will prove an efficient aid in controlling

the albuminuria of pregnancy, as well as a valuable remedy in Bright's disease from other sources. Mr. Shinn has produced a very beautiful crystalline salt of the calcium benzoate, consisting of exquisite translucent, colorless, acicular crystals, soluble in about the proportion of twenty grains to the fluidounce of water, and of this the dose I have adopted is in marked cases ten grains dissolved in a tablespoonful of fluid consisting of water with enough orange syrup to flavor it, to be administered every two or three hours during the day.

Another point is the value of external manipulation in establishing the conditions of pregnancy. Time does not permit me to enter fully into the consideration of this diagnostic means, by which now the well-instructed obstetrician can in almost every case make out distinctly not only the fact of pregnancy, but also the period approximatively of its advancement, the number of fœtuses, and the relations of the fœtus to the long axis of the uterus and to its transverse planes in the later months of gestation. So satisfactory has this become that I look upon it as a duty, wherever it is at all practicable, in every case over which I have the exclusive control, to make an external examination during the last three or four weeks of pregnancy, not only to avoid the disagreeable and serious possibility of finding at the last moment a case of spurious pregnancy, but also to detect in advance any malpresentation, or even a presentation of the breech, which would give ground for anxiety. In this case the value of abdominal manipulation was demonstrated in the diagnosis of the twin pregnancy, and afterwards both for diagnosis and correction of deviation in the transverse presentation of the second fœtus. This has become now so thoroughly recognized by first-class obstetric writers and teachers that no treatise on midwifery and no college course can be considered complete without giving full consideration to it as a necessary diagnostic measure, and full details of its methods of application.

Another point of interest to which attention may be called is the reconstruction of the cervix after the expulsion of the first fœtus, a condition which I have never seen before to the extent that was here present; giving protection to the second fœtus, and especially supporting the bag of waters, which, under the circumstances, involving a necessity for external version, was a fortunate exception.

Again, another peculiarity was found in the entire distinctness of implantation of the two placentæ, the one being low down near the internal os, the other at the fundus. This is the first case in which I have seen a separation of the two placentæ in my practice; nor have I ever seen an intercommunication between the vessels of the two placentæ. In every instance before I have found the usual conditions of a marginal union by connective tissue of various degrees, from a very slight, almost tangential union, to a condition in which the two placentæ were in form of two semicircles placed base to base; always with two distinct cords entering any portion of the respective placental mass, and sometimes entering so closely together upon the contiguous margins as to look at first like a single cord. An interesting feature of this case was the fact that the first placenta, although situated low down, and far below the portion of the uterus occupied by the remaining ovum, was not displaced by the uterine contraction which effected the second expulsion, and yet that, on the other hand, after the first placenta was expelled that portion of the uterus upon which it had been implanted did contract so firmly as to obliterate the open vessels of the uterus which had supplied it, so that no appreciable or troublesome hemorrhage showed itself in the interval of rest before the expulsion of the second placenta. Dr. Hodge, Sr., reports a similar case of placental anomaly.

There are some points in this case which might have been dwelt upon more at length, and more accurately developed in their obstetric relation; but the object of the report was simply to draw attention to them in their practical relation, and it would be an unwarrantable encroachment upon the time of the Society to do more.

1419 Walnut St., Philadelphia.

Bottle in the Rectum.—Dr. Rodenstein (*Annals of Anatomy and Surgery*, August, 1881) gives a case where a six-ounce medicine-bottle had been introduced into the rectum for the relief of hemorrhoids. The bottle escaped within the sphincter and gradually worked its way through the sigmoid flexure and transverse colon until it became fixed in the right iliac fossa at the cœcal pouch. The patient was relieved, under chloroform, by manipulation.

A NEW FORM OF GALVANO-CAUTERY BATTERY, AND A NEW INSTRUMENT FOR THE TREATMENT OF NASAL HYPERTROPHIES.

Read before the Philadelphia County Medical Society, June 8, 1881,

BY CARL SEILER, M.D.

BEFORE giving a description of the battery and the galvano-cautery knife, I will pass in short review those conditions of the nasal cavity in which galvano-cautery is applicable and presents advantages over other caustics which have heretofore been used for the same purposes that electricity now accomplishes. It is not my intention, however, to read an exhaustive dissertation on nasal catarrh and its different forms: I shall only point out those conditions of the disease in which I have found the use of the galvano-cautery knife to be the most satisfactory mode of treatment.

By far the greater number of cases of nasal catarrh which present themselves for treatment are those in which on examination of the nasal cavities we find portions of the mucous membrane to be hypertrophied, thereby producing partial or complete stenosis of the nasal passages according to the extent of the hypertrophies. These swellings have been proved to be true hypertrophies involving the epithelial layer, the submucous tissue, and the cavernous erectile tissue, as well as the mucous glands, by microscopical examination, and may be situated at the anterior or posterior portion of the turbinated bones, at the anterior or posterior portion of the septum, or, finally, in the vault of the pharynx, in the so-called pharyngeal tonsil. Besides giving rise to partial or complete stenosis, this hypertrophied condition of the mucous membrane gives rise to the secretion of large quantities of thick, tenacious mucus, which cannot be discharged through the obstructed nostrils, and consequently flows back into the pharynx, necessitating a constant hawking to dislodge it on the part of the patient.

Clinically these different phases of the disease have been divided into pharyngeal hypertrophy if situated in the vault of the pharynx, posterior hypertrophy if found at the posterior portion of the turbinated bones or the nasal septum, and, finally, anterior hypertrophies if they occur on the anterior portion of the turbinated bones or the septum. This latter class is by far the most frequently found, and is the one for the cure of which I am in the habit of employing the galvano-cautery.

There can be no doubt that these swellings of the mucous membrane, even when small and apparently insignificant, narrow the breathing-space in the nostrils and give rise to many of the annoying symptoms of nasal catarrh, and therefore I hold it as my opinion that they should be removed. Their very nature at once precludes the possibility of reducing them permanently by internal medication or local application of astringents, and it has been clearly demonstrated, to my mind at least, that nothing short of actual destruction of tissue is efficacious.

In treating anterior hypertrophies I am in the habit of making incisions across them with the galvano-cautery knife, at a cherry heat, deep enough to penetrate the mucous membrane and enter slightly the cavernous connective tissue, making only one or at the most two incisions at one sitting. It is necessary that the knife should be at a cherry heat, for if it be hotter considerable bleeding will follow the incision, and if it be cooler a great deal of unnecessary pain will follow the operation. The effect of such incisions is to produce bands of cicatricial tissue, which in contracting bind down the hypertrophic mucous membrane, and so relieve the stenosis. The unreliability of the galvano-cautery batteries now in the market, the inconvenience attending their use, and the costliness of the apparatus, have deterred many surgeons from employing this agent for minor operations within the cavities of the body where it is very desirable that there should be little if any bleeding. I myself, on account of these difficulties, was not able to use galvano-cautery until I constructed the battery which I have brought here this evening, out of material at hand. It is larger and heavier than need be, owing to the thickness and weight of the plates which I had and therefore used. The battery is one of carbon and zinc plates mounted on a board in such a manner as to give the greatest amount of quantity in the current. These plates are immersed in a liquid composed of sulphuric acid, bichromate of potassium, and water, contained in two large battery jars. The board to which the plates

are attached is swung between two levers, which are fastened to a cross-bar running the whole length of the box containing the jars, and revolving in slits cut into the end boards of the box. Outside of the box two long levers are fastened to the end of the cross-bar, the one carrying a weight sufficiently heavy to counterbalance the plates with the board upon which they are mounted, and the other having attached to it a treadle. When the battery is not in use, the plates are lifted out of the fluid by the counterweight and remain suspended above the jars. By placing one foot upon the treadle and making pressure upon it, the plates are immersed and the current is generated.

This mechanism, besides being very convenient and doing away with the necessity of having an assistant to immerse the plates and remove them from the fluid, places the amount of current to be used, and consequently the degree of heat in the knife, completely under the control of the operator; for the more pressure is exerted upon the treadle the deeper are the plates immersed and the more electricity is obtained. I am indebted to Mr. Griscome, of the Dynamo-Electric Company, for the idea and application of this mechanism. Another great advantage in this battery over all others is the fact that it can be used frequently without a necessity of renewing the fluid, for the jars are so large as to hold a large amount of fluid, so that it takes a long time before it becomes exhausted.

In using galvano-cautery for operations within narrow cavities, such as the larynx and nares, I found great difficulty in preventing the injury to other parts than those to be operated upon by the heat developed in the conducting wires of the knife, which usually are only covered with a thin layer of floss-silk. This readily burns off and leaves the wires bare, especially near the platinum loop, and, being of a black heat, may inflict very painful injuries to parts not intended to be burned. In order to obviate this difficulty, I searched for a substance with which the conducting wires could be insulated, and which would be at the same time a non-conductor of electricity and of heat, and found it in a substance called vulcanized fibre, manufactured in Wilmington, Delaware. The knife which I hand around has been in daily use for a number of weeks, and you see that the insulating sheath does not show the slightest trace of having been burned or injured by the heat, and when the current is passing making the platinum loop white hot, the sheath can be touched with the fingers without feeling more than warm.

1346 Spruce Street.

FATAL OTITIS.

Read before the Philadelphia County Medical Society, June 22, 1881,

BY G. C. HARLAN, M.D.,

Surgeon to the Eye and Ear Department of the Pennsylvania Hospital, and to the Wills Eye Hospital.

FOR the notes of the case which has recently called my attention to this subject I am indebted to my clinical assistant, Dr. C. H. MacIlwaine:

Sarah G., a delicate-looking child, 4 years of age, was brought to the dispensary of the Pennsylvania Hospital on the 6th of November, with the following history. She had measles two years ago, and there has been almost constant discharge from both ears since. Four months ago she was struck on the left ear, and since then there has been increased discharge from that ear, and pain, which has been constant and at times intense. For the last three days the pain has been much worse, keeping her awake at night. There has been no discharge from the right ear for some weeks. There is now no facial paralysis and no external swelling. The child is too nervous and restless for a thorough examination of the ear. Ordered ear-douche of boracic acid and warm water every two hours, and morphia at night.

November 11.—Mother noticed yesterday that the face was drawn to the right side, and there is now partial facial paralysis. Ether administered, and external meatus found filled with polypi, which were removed with forceps. Posterior and upper wall of meatus eroded, membrane destroyed, and ossicula exposed. Sol. argent. nit., gr. xl ad ℥j, applied on pledget of cotton.

November 13.—Rested well after the operation; has slept nicely for two nights, and, though the appetite is poor, she looks much better than before the operation. The facial paralysis is now complete; the left eye cannot be closed.

November 19, eight days after the operation.—Seen by Dr. MacIlwaine at her home. Intense headache and flushed face to-day. Temperature, 102°. Does not complain of pain in the ear, but is very restless.

November 23.—Has had constant headache and fever since the 19th; cannot be kept in bed; insists upon being held in her mother's

arms all the time, but is perfectly quiet if not disturbed.

November 26.—Seems in much the same condition. Great deal of headache, not located in any particular part; temperature high; quiet in mother's lap, and perfectly conscious.

November 28.—Slept fairly during the night, and seemed in about the same condition this morning, but became comatose, and in an hour afterwards died quietly.

Post-mortem, forty-eight hours after death, by Dr. MacIlwaine.—Membranes of cerebrum congested, but otherwise healthy. No sign of disease in upper surface of petrous bone. When cerebrum was removed, a bulging of the tentorium was noticed on the left side, and an abscess of the cerebellum, containing about half an ounce of pus and clotted blood, was discovered beneath it. The dura mater over the abscess seemed healthy, but the pia mater was partly destroyed and the remainder covered with lymph. The abscess was situated immediately over the entrance of the internal auditory meatus. The dura mater covering the lower aspect of the petrous bone was healthy, except at the entrance of the meatus, the edges of which were bared and bathed in greenish pus, which filled the meatus. The rest of the brain and its membranes were healthy. No other organ examined.

Examination of temporal bone.—Anterior wall of external meatus destroyed, except a narrow, jagged scale of bone; posterior portion bare and eroded; membrana tympani entirely destroyed; inner wall and floor of tympanum bare; mucous membrane about entrance of Eustachian tube and on roof much thickened; malleus and incus in place, but partially eroded; no trace of stapes; fenestræ rotunda and ovalis uncovered, and water injected into them passed out at once through internal auditory meatus; the floor of the tympanum was as thin as tissue-paper, and there was a large perforation through the anterior edge of the jugular fossa; the portion of the fossa corresponding to the floor of the tympanum was bare and rough; the vein was sound and apparently healthy; on the inner surface of the bone the dura mater was everywhere perfectly healthy, except at the mouth of the internal auditory meatus; around the margin of this opening there was a free, loose edge of dura mater, raised by the pus that filled the meatus. The facial and auditory nerves, embedded in this pus, were in a sloughing condition; on removing them the walls of the meatus were found entirely bare throughout their whole extent, but there was no caries. The foramina at the bottom of the meatus were of their normal size. The passage of water from the labyrinth to the meatus would seem to have been due to the destruction of the lining membranes of the bone. The thick greenish pus which filled the interior auditory meatus must have been formed there by the destructive inflammation of the dura mater lining it. This canal being a part of the intracranial cavity, there was no further obstruction to the progress of the disease to the cerebellum.

The unprotected condition of the jugular vein, which really formed a part of the floor of the tympanum, not even covered by mucous membrane, illustrates the necessity for care in the use of instruments in the middle ear; and the fact that fluids poured into the porches of the ear may, even without the presence of caries, pass directly to the brain, has practical interest.

Four other cases of death from disease of the ear have occurred in my practice, including one in the Pennsylvania Hospital while I was resident surgeon.

Case II.—The notes of this case have, unfortunately, been lost, and so long a time has passed that my memory can recall only its general outlines. The patient presented himself with complete paralysis of the facial nerve, which he stated was the result of a blow upon the side of the head received the day before. What appeared to be a polypus was discovered in the external auditory meatus of the same side, but it proved, on removal, to be the end of a broken knife-blade covered with granulations which had sprung up around it. Its point was embedded in the bone. The patient then stated that he had been assaulted by some boys about a year before, who had inflicted several wounds with penknives, one of them in the ear; but that he had suffered only a slight discharge and was not aware of the presence of a foreign body. There was extensive caries of the meatus and tympanum, and death resulted in a few weeks from direct extension of the disease to the brain.

The three other cases have already been reported, but may be briefly referred to. The specimen I now present is the temporal bone of a patient whose case was reported in the *Philadelphia Medical Times* for November 16, 1872.

Case III.—She was a delicate girl, 22 years of age, whose mother had died of phthisis. She had been subject to occasional discharge from the ear since early childhood, and death resulted from an abscess of the brain following upon a violent attack of otitis, which involved the tympanum, mastoid, antrum, and external meatus. The abscess was as large as a hen's egg, and rested on the upper surface

of the petrous bone, from which it was separated by the membranes and a thick layer of lymph. There was a small opening through the membranes. An interesting point in the history of the case is that the diagnosis of cerebral disease was confirmed, some time before death, by the ophthalmoscope, which revealed marked choked disks in both eyes, though there was no noticeable diminution of vision. Nearly half of the roof of the tympanum from the entrance of the Eustachian tube backward is destroyed, and the upper part of the posterior wall is gone, the tympanum and mastoid antrum forming one continuous cavity. Nothing remains of the roof of the mastoid antrum but a thin bony scale with large perforations. The outer part of the posterior wall of the external meatus and the bone around it are honeycombed, and contain sinuses leading to the mastoid cell. Notwithstanding the extensive destruction of the walls of the tympanum, the portio dura has escaped. There was no facial paralysis, though the nerve was exposed at several points by openings in the aqueduct of Fallopius. The membrane was destroyed, and there was a large polypus just within the tympanum. The development of the temporal bone is very deficient for an adult, and the mastoid process is little more than rudimentary. What there is of mastoid is sclerosed, and shows only a trace of the vertical cells,—a not uncommon result of chronic inflammation of the bone.

The two other cases were of malignant disease.

Case IV.—The specimen presented is from a woman 55 years of age, who applied for relief from a swelling behind the right ear, nearly the size and much the shape of half a hen's egg. It had so much the appearance of an abscess with very thick tense walls that two free incisions had been made in it by a surgeon. These incisions had gaped widely, and fungous granulations were springing from them. They soon assumed the character of foul-looking, sloughing ulcers, with an offensive, sanious discharge, and rapidly increasing in depth. An opening, through which the discharge flowed profusely, was formed into the external meatus and extended until the auricle was almost dissected off. As the disease progressed inward, the portio dura was involved, and the right side of the face was completely paralyzed. After several months of intense suffering, death resulted from direct extension of the disease to the brain. Nearly the whole of the mastoid portion and a part of the petrous and squamous portions of the temporal bone, the wall of the external meatus, and the angle of the parietal bone have been destroyed. The tympanum has been laid open by the destruction of its membrane and a part of its roof. When we consider the great extent and rapid progress of the disease and the close proximity of the lateral sinus, internal jugular, and carotid, it seems singular that there was no considerable hemorrhage. The carotid foramen is to a great extent, and the jugular foramen almost completely, obstructed by a bony deposit.*

Case V. is that of a little girl, 3 years of age, a patient in the Eye and Ear Department of the Children's Hospital. A year before coming under observation she had scarlet fever, and had not been in good health since. Three months before, she became restless and seemed in pain; and two months before, a slight discharge of blood from the meatus was observed for the first time. There was a fluctuating swelling beneath and behind the left auricle, and in the external meatus a thick, purulent discharge and a firm, rounded polypus the size of a pea, or larger. The facial nerve was paralyzed. The polypus was removed and an incision made into the external swelling. From the latter there was a copious discharge of offensive pus. In about two weeks the wound gaped and a fungous growth appeared in it. The polypus rapidly reformed, but became strangulated by constriction in the meatus and sloughed. The child died in about eight weeks after she was brought to the hospital. No post-mortem examination was permitted beyond the removal of the tumor. Extensive erosion of the temporal bone could be felt by the finger introduced into the wound. The extension of the disease inward was fully proved before death by paralysis of the seventh, third, and fifth nerves. Microscopical examination showed the growth to be a round-celled sarcoma.†

Though malignant disease of the middle ear is very rare,—so rare that it is not even mentioned in some of the standard text-books on aural surgery,—it is well to

* Reported in Transactions of Pathological Society of Philadelphia, vol. iv.

† Philadelphia Medical Times, December 13, 1873.

bear in mind the possibility that an aural polypus or a mastoid swelling may have this character, and that active interference may only hasten the fatal result.

Disease of the ear may result in death by means of intracranial abscess, meningitis, hemorrhage from eroded vessels, thrombosis of the lateral sinus, or purulent infection with metastatic abscess in distant organs, with or without accompanying lesions of the brain. These are not merely theoretical possibilities, but matters of history, with abundant records in medical literature to substantiate them all. The most frequent of these fatal lesions is intracranial abscess; and Lebert estimates that about one-fourth of all cases of abscess of the brain have their origin in caries of the petrous portion of the temporal bone.

Before attempting to trace the various paths that the disease may follow to its fatal termination, it may be well to recall some of the more important anatomical relations of the ear. The upper surface of the petrous bone is in relation with the cerebrum, and its posterior surface and the mastoid process with the cerebellum and the petrosal and lateral sinuses; the dura mater in both cases performing the part of periosteum. On its anterior inferior surface, which forms a part of the base of the skull, are found the carotid canal and jugular fossa. In the upper surface of the petrous bone are the upper walls of the tympanum, the mastoid antrum, and the labyrinth; on its posterior surface is the posterior wall of the labyrinth, and on its inferior surface the floor of the tympanum and of the labyrinth, while the inner wall of the mastoid cells forms the lateral sulcus. On all these surfaces there is more or less direct communication between the ear and the brain through foramina for the transmission of vessels and nerves. When disease is communicated directly from the roof of the tympanum or mastoid antrum, the cerebrum suffers; when it extends from the labyrinth or mastoid cells, including the posterior wall of the antrum, the cerebellum is, as a rule, involved; while the carotid artery and jugular vein are endangered by caries of the anterior wall and floor of the tympanum.

Whatever course the disease may eventually take, its origin is usually in the tympanum, from which it may extend in various directions. The most frequent is through the roof of the tympanum to the middle lobe of the cerebrum which rests upon it. The tegmen tympani varies much in health, and is sometimes as thin as parchment, or even deficient in places, leaving the mucous membrane of the drum in contact with the dura mater. In the greater number of post-mortem examinations made after death resulting from otitis, the roof of the tympanum has been found carious. In some cases meningitis has been the immediate cause of death; but the most frequent cerebral lesion is abscess. The abscess may be in direct contact with the carious bone, as in Case III., but is frequently—according to some authorities, in the majority of cases—at some distance from the drum, and with sound brain-substance intervening between them. The pathology of the latter class of cases is somewhat obscure. The disease is generally supposed to be conveyed through the blood-vessels, probably by emboli, though the absence of symptoms of the condition known as pyæmia, and the fact that the abscess is always found on the same side of the brain as the otitis, would seem to show that it is not exactly of the nature of typical metastatic abscess. As a proof of unsettled pathology, it may be mentioned that *bacteria* have been called upon to do duty in explanation. McBride and Bruce and Binswanger* believe that cerebral abscess resulting from disease of the temporal bone, but separated from it by healthy brain-substance, may be caused by infectious micro-organisms passing into the circulatory system from the purulent points, or transported along the perivascular connective tissue. As the roof of the horizontal mastoid cell, or mastoid antrum, is continuous with that of the tympanum, and the partition of delicate cancellated bone between them is easily broken down, they are likely to constitute practically one cavity in cases of long-standing disease. The propagation of disease from the roof of this cavity to the cerebrum is well illustrated by Case III.

Acute inflammation of the tympanum also sometimes extends to the brain. Toynbee reports a case of cerebral abscess without caries of the bone, occurring in two weeks from the commencement of an otitis media; and other somewhat similar cases are on record.

Another direction that the disease has

* Journal of Anatomy and Physiology, vol. xiv. p. 360.

taken in quite a number of reported cases is through the labyrinth and internal auditory meatus to the cerebellum, as in Case I. The destruction of the membrane of the fenestra rotunda or fenestra ovalis at once opens a free passage for pus from the tympanum to the labyrinth. In addition to this there is an anastomosis between the blood-vessels of the tympanum and those of the labyrinth. When the purulent process is once established in the internal ear there is no other obstruction to its progress towards the brain than the thin cribriform plate at the bottom of the internal auditory meatus, which, as we have seen, may be readily passed. Indeed, Hyrtl has stated that "it is not impossible that the perilymph of the vestibule is cerebro-spinal fluid." The middle and the internal ear have also been found to communicate through a perforation of the promontory by caries. Another possible channel of communication between the tympanum and the internal auditory meatus is along the course of the portio dura in the aqueduct of Fallopius, though I am not aware that any case of the kind has as yet been reported.

Though any other than a fatal result of extensive necrosis of the labyrinth must of course be extremely rare, several recorded cases prove that it is not impossible.* One was reported in the *Philadelphia Medical Times* for June 15, 1871, by Dr. W. W. Keen, to whom I am indebted for the opportunity to show this very interesting specimen, which was removed through the external meatus. It consists of the "entire petrous portion of the temporal bone, much eroded, but still showing the auditory meatus and the walls of the three semicircular canals. Of the carotid canal no distinct trace could be found, but a groove on the inferior surface seemed to indicate where it had been." The patient, a child five years old, lived to grow fat and hearty afterwards, though what was left of life—with hearing, sight, taste, and smell entirely lost—was hardly worth the preserving. The subsequent condition has been more favorable in some of the other cases.

A frequent course of the disease in its fatal progress towards the brain is by way of the mastoid cells. Mastoid suppuration may prove fatal through basilar meningitis, inflammation of the cerebellum, with or without abscess, or hemorrhage from or thrombosis of the lateral sinus. A glance at the relations of the mastoid process to the cerebellum and the lateral sinus can leave no doubt of the danger of a destructive inflammation of that bone or of a collection of pus in its cells. The operation for giving exit to such collections by perforating the bone has been successfully performed in a number of cases, and may now be considered as one of the established operations of surgery. That extensive mastoid disease may, however, sometimes spontaneously end in recovery in young subjects is shown by the not very unfrequent exfoliation of large portions of the bone in children.

For the opportunity to illustrate, by means of two specimens, the extension of disease from the mastoid cells to the lateral sinus I am indebted to the kindness of Dr. W. W. Keen and Dr. Morris Longstreth. The case from which this specimen was taken is reported in vol. viii. of the Transactions of the Philadelphia Pathological Society. There is a large carious opening from the mastoid cells directly into the lateral sinus. The sinus is filled with a gangrenous thrombus extending to the torcular Herophili. The superior petrosal sinus is also filled by a thrombus. The septum between the tympanum and the mastoid antrum is destroyed, but the other walls of the tympanum are intact, and the ossicula are in place. There was localized softening of the cerebellum. The mastoid was trephined.

The other specimen is from the museum of the Pennsylvania Hospital, and has also been presented to the Pathological Society (vol. x.). The patient (S. G., 49 years of age) had had purulent aural catarrh for a month before death, following upon an attack of erysipelas of the head and face, and presented cerebral symptoms towards the close of her life. The wall of the lateral sulcus is destroyed, and the partitions of the mastoid cells, both vertical and horizontal, are broken down, so that the mastoid space and the sulcus form a single unpartitioned, ragged cavity, which was lined with dense granulations. There is a large carious opening between this cavity and the external meatus. The squamous portion of the temporal bone is diseased, and is nearly separated from the rest through the petro-squamous suture. The

* See Wien. Allg. Zeit., Nos. 41, 43, 45, 1864, and Roosa's edition of Tröltsch.

auditory ring is entirely separated from its bony connections and is held only by the soft parts. The roof of the tympanum was removed for examination of the cavity, which was found much changed: its lining membrane was covered with granulations, and it contained thickened pus and shreds of tissue. The ossicles were in place, but partly denuded, and were bathed in pus. The Eustachian tube was also filled with thickened pus. The lateral sinus was filled with a black clot, and there were purulent basilar meningitis and inflammation of the anterior and under surfaces of the cerebellum.

Still another fatal course that tympanic disease may take is by involving the carotid artery or jugular vein. The bone separating the tympanum from these vessels is sometimes extremely thin. That forming the floor of the tympanum and the jugular fossa has been found deficient, from defective development, having openings where the mucous membrane of the drum was in contact with the vein. A number of cases are recorded in which death resulted from injury to these vessels. In several instances fatal hemorrhage from the artery has been prevented by ligation of the common carotid.

Direct extension of the disease from the middle ear to neighboring vital parts is not the only danger that threatens the life of a patient with purulent aural catarrh. A number of cases are on record in which death has resulted from pyæmia with metastatic abscesses in distant organs. This is by no means surprising when we consider that the temporal bone contains large cavities which have direct venous communication with the intracranial sinuses and which are frequently found filled with pus. The bone itself has also free vascular communication with the dura mater on one hand and the mucous membrane of the middle ear on the other; and it is a well-established fact that disease may extend from the ear to distant parts, as well as to the brain, even without the intervention of caries. For an illustration of this fact I am indebted to Dr. Burnett. This specimen is from a patient whose case is reported in vol. vii. of the Transactions of the Pathological Society of Philadelphia. There was a copious purulent discharge from the right ear, with intense pain in the ear, mastoid region, and right side of the head. Dr. Burnett trephined the mastoid with great temporary relief to the patient, who was thought to be convalescent, but who died sixteen days after the operation. The brain and the intracranial sinuses were healthy, but metastatic abscesses were found in the liver and lungs. The membrane was gone, and the tympanum and mastoid cells were filled with a cheesy mass of purulent débris. There was no caries, but the bone presents evidences of disease in hyperostosis of the outer wall of the mastoid cells and minute perforations of the inner wall.

The specimens that you have seen illustrate the extension of disease from the tympanum through its roof, through the internal ear, and through the mastoid to the brain, and through the circulation to distant organs. I have not been able to obtain one showing the progress of disease through the floor of the drum; but in Case I. the conditions of a fatal issue by this direction existed, in the extreme thinning and partial destruction of this part of the bone; and it could scarcely have been long delayed if it had not been anticipated by the deeper lesion. These specimens speak for themselves with the eloquence of evident facts, and do not need extended comment.

Von Tröltsch, after describing to his class the anatomical relations of the middle ear, exclaimed, "Do you know a small cavity in the human body which borders in a similar manner on so many important organs, and in which we should, therefore, so anxiously regard purulent processes and their common consequences?" It must be freely and thankfully admitted that the appreciation by the profession at large of the grave importance of these processes has of late years wonderfully advanced; but I may be excused for expressing the conviction that they are, even yet, far from being generally accorded the anxious attention that they deserve. Perhaps the prevalence of polypi in a given number of cases of otorrhœa may be considered as a fair indication of the degree and kind of care that the patients have received; and I have noticed a decided diminution in the proportionate number of these growths occurring in both hospital and private practice in the last ten years. It is, however, hardly an exaggeration to say that such a thing as an aural polypus should be almost unknown in a civilized community. It is not many years since, even among the

shining lights of the profession, the favorite prescription for a chronic purulent otitis was to let it alone, enforced, perhaps, by the general dictum that it was not well to meddle with the ear, or accompanied by the comforting assurance that the patient, if a child, would "grow out of it." It must be confessed that this rather barbarous expression still sometimes, though happily not often, crops out in the history of a case; and it is true that the patient may grow out of it, so far as the continuance of the loathsome discharge and the danger to life are concerned, and, at the same time, grow out of his hearing. But, on the other hand, it should never be forgotten that he may grow into it more deeply and dangerously every year, until life is sacrificed at last to the unopposed progress of a disease which in its earlier stages would almost certainly have yielded to careful and skilful treatment.

NOTE ON SCHUYLKILL WATER.

Read before the Philadelphia County Medical Society, June 22, 1881,

BY HENRY LEFFMANN, M.D.

IT is my purpose to take only a few minutes to give some results, or rather conclusions, which have been derived from recent analyses of our water-supply. Very little is heard about the hygienic relations of Schuylkill water, probably because public opinion has long since settled to the conclusion that it is a good water. Nevertheless, as visitors sometimes complain of it, and as newspapers in their flings at the water department not infrequently condemn the quality as well as the quantity of the supply, I have ventured to take up the Society's time long enough to say that examination made at various times during the winter and spring have shown that the water is of fair quality and cannot be regarded as an active cause of disease in our city. It is an insipid water, lacking the pleasant taste and sparkling character of spring water, especially of the so-called hard waters, and this lack is often taken as evidence of impurity. During the periods of freshet it becomes quite turbid from the suspension of particles mostly silicious; but such suspended matter rarely exceeds a grain or two to the gallon, and the individual particles are too minute to cause any irritation. In the turbid water several species of harmless animalcula can usually be detected. In making any brief statement of the composition of a water we are embarrassed by the fact that the modern methods of water analysis are very strictly technical: they give us not the impurities themselves, but the amount of certain indications of impurity. Without stopping to explain the mere chemical phase of the question, I will simply give a comparison of a recent analysis of Schuylkill water with that of two samples of London water analyzed by the same method and considered excellent waters:

	Schuylkill.	Kent Company, London.	Chelsea, London.
Chlorine	0.53	1.2	0.51
Ammonia, from organic matter	0.0028	0.0022	0.0035
Total solids	7.00	34.00	17.64

All the figures are grains to the imperial gallon.

The Society of Public Analysts of England has recently proposed a system by which each factor in the composition shall be valued by an arbitrary number, and all the numbers being added will give us a figure representing the standard of the water. In good waters this sum will not exceed 35. Schuylkill water varies from 17 to 23, so that it comes decidedly below the limit. In regard to Delaware water I may remark that, so far as I have examined it, it is not as good as the Schuylkill water. The amount of organic matter is higher, and the microscopic examination shows forms of life which are frequent in decomposing materials.

TRANSLATIONS.

PURPURA HÆMORRHAGICA AS A NEUROSIS.—The nervous origin of certain cutaneous affections, says Dr. H. Leloir in *Le Progrès Médical*, is a question of great interest at the present time. Recent observations tend to confirm the opinion of Drs. Stieldorf, Wagner, Henoch, Couty, and others as to the nervous origin of some cases of purpura. Rigal and Cornil (*Soc. Méd. des Hôp.*, Fév. et Mars, 1879), in discussing a case of acute purpura hæmorrhagica of which they made an autopsy, propose the following conclusions: 1. Severe purpura hæmorrhagica is a group of symptoms constituted essentially by hemorrhages in the skin and mucous mem-

branes and by progressive weakness resulting in nervous exhaustion not always commensurate with the amount of hemorrhage. 2. Whatever are the other morbid conditions which may have been concerned in the production of a given case of purpura hæmorrhagica, it is necessary to include some trouble with the vascular innervation if we are to understand the causation of the hemorrhages. This nervous disturbance may be either excitation of the sympathetics or diminution in the action of the vaso-motor centres. 3. The alterations in the blood and the lesions of the vascular walls appear to be variable and inconstant. While admitting their importance, they appear insufficient to produce purpura hæmorrhagica without some nervous perturbation.

Mackenzie (*Medical Times and Gazette*, March, 1877), referring to a case of purpura occurring in a young girl, and disappearing under the influence of treatment, only to reappear anew at the menstrual period, and giving rise to fatal symptoms, seems to think the affection due to an intracranial lesion. He does not, however, in the opinion of Dr. Leloir, bring forward sufficient proof to sustain this view.

Maiocchi (*Lo Sperimentale*, February, 1877) thinks that purpura rheumatica belongs neither to a diathesis nor to a dyscrasia nor to an infection. He makes it out an affection of the vaso-motor system. Cavalier (*Bull. Gén. de Thérap.*, 1879) reports a case of purpura hæmorrhagica alternating with paralytic symptoms. Finally, Shand (*Lancet*, July, 1879) has obtained good results in purpura hæmorrhagica by the use of electricity.

The attention of surgeons has long been drawn to certain scarlatiniform eruptions showing themselves after wounds and injuries. Authors are, however, far from being in accord in their views on the nature of these eruptions.

Stirling (*St. George's Hospital Reports*, vol. x., 1879), in an important and judicious memoir based on thirty-nine personal observations, and after discussing all the cases of the kind which have been reported, concludes that these eruptions are sometimes those of true scarlatina, while at other times they are simply scarlatiniform and non-infectious in character, resembling in pathogenesis certain erythemata, herpes, and certain papular eruptions which show themselves after injuries. He classes them as vaso-motor eruptions, regarding them as similar to the rashes which often occur in recently-parturient women. Dr. Kidd (*Dublin Journal of Medical Science*, April, 1880), who has studied these last, calls them uterine erythemata or "roseola uterina." This rash shows itself without febrile disturbance or general symptoms on the third to the fifth day after confinement, and exercises no unfavorable influence on the course of the confinement.

Frilet ("Contribution à l'Étude des Manifestations herpétiques dans leurs Rapports avec le Traumatisme") asserts the fact of the occurrence of herpes after traumatism, and says that, although in some cases it may be accounted for by reflex action, yet it is usually the expression of a general cause exercising its influence on the whole organism, which the injury sets in action. Finally, Auspitz, in his new classification, has the class "angioneurotics," which includes peliosis rheumatica.

TREATMENT OF INTERMITTENT FEVER BY SULPHATE OF QUINIA BASED ON THE EPOCH OF ITS MAXIMUM ACTION—PREVENTION OF RELAPSE BY QUINOIDINE.—In an interesting paper on this subject, published in the *Bull. Gén. de Thérap.* (1881, p. 347), Dr. Jules Augé, after speaking of the usual methods of giving quinia in use at present, suggests some modifications, as follows. He prefers to give the sulphate of quinia in powder covered with the usual bread-wafer, as being most efficient. In the treatment of the quotidian type of fever in adults, Augé gives eight grains of the sulphate of quinia in two equal doses, the first given four hours and the second two hours before the expected attack. Immediately after taking the medicine the patient swallows a bowl of soup or broth. The same dose is given daily for four days. In children from three to ten years of age, three- to four-grain doses are given in the same way. To infants, the syrup of quinia, composed as follows, is given:

℞ Quiniæ sulph., gr. xvj;
Acid. sulphuric. dil., q. s.
Dissolve, and add
Syrupi acid. tartaric., ℥viiss;
Syrupi simpl., ℥x.

The dose is two teaspoonfuls (*i.e.*, gr. ij) four hours before the attack, and two more two hours before it. Then the breast or bottle, or a little soup, is given, according to the infant's usual diet.

In tertian ague four grains of quinine are to be given four hours before the attack, and the same quantity two hours before it, with the soup as usual after each dose. On the day of intermission four grains are taken in the morning, and four more in the evening. Similar doses are given in the same way through two or three attacks of fever and apyrexia. Commonly, this course of treatment lasts four to six consecutive days. Subsequently quinoidine is administered. In children the plan followed is similar, but the syrup of quinia is used in appropriate quantities.

In quartan ague Dr. Augé gives eight to twelve grains on the day of the fever, divided into two doses and taken as above. On each day of apyrexia he gives four to five grains morning and evening, and this is kept up during two complete series of fever and apyrexia. Then, during the two series following, the quinine is replaced by a few teaspoonfuls of wine of quinoidine. It is then employed once more during a couple of series, and is subsequently permanently replaced by the quinoidine continued during a fortnight or more.

This method of treatment is particularly efficacious in those forms of malaria which are apt to occur in late autumn or winter, and which are so apt to be accompanied by engorgement of the abdominal viscera, chiefly of the spleen, and with malarial cachexia.

When quinine cannot be used on account of its cost, Augé strongly urges the employment of quinoidine, which, after a long series of experiments, has been found a most efficient substitute for quinine. The dose is larger, but it is soluble in water, and therefore more easily administered. It may be given in powder, pills, dragées, tincture, or syrup. For infants at the breast, the dose is one-sixth grain, and it runs up to eight to sixteen or twenty grains for adults. The method of administration recommended by Dr. Augé is that above given for quinine.

To prevent relapses, Dr. Augé gives the wine of quinoidine until the spleen is reduced to its normal condition. His conclusions are, essentially, that the maximum action of quinine is shown two to four hours after its ingestion; that it should never be taken fasting; that the most soluble forms of the drug are to be preferred; that wine of quinoidine should follow quinine to prevent relapses.

The Etiology of Gangrene of the Mouth (Noma).—Dr. Krasine (*La France Médicale*, 1881, p. 657; from *Vratchebniya Vaidomosti*) gives the case of two persons—a mother and daughter, aged respectively 48 and 8 years—who, following the endurance of great hardship, were attacked with gangrene of the face. Examined in the hospital two weeks after the beginning of the disease, for which neither treatment nor attention had been previously obtained, the greater part of the right cheek was found in both cases to have been destroyed by gangrene. The patients died after a fortnight's stay in the hospital, the disease having run a course of a month, which is rare in fatal cases. Krasine, in reporting the cases, discusses the pathogeny of noma in general. It is rarely found in adults,—usually in children of ten to twelve years, following eruptive or intermittent fevers. Its occurrence is favored by bad alimentation, damp dwellings, and the abuse of mercury (?—Ed.). It is more frequent among girls than among boys.

Noma generally begins by the appearance of a patch of induration situated on the mucous surface of the cheek near the labial commissure, and which is quickly surrounded by minute phlyctenulæ. The neighboring parts swell, the patch becomes black, it spreads on the surface and deeply, the soft tissues become involved, and even the bone is affected. After the removal of the sphacelated portions a hideous hole remains in the side of the cheek. Death occurs in seventy cases out of one hundred. In case of cure, extreme disfigurement, with adherent cicatrices, is apt to ensue.

This disease has sometimes been considered to originate in some disorder of the nervous system, particularly the vasomotors of the face. Krasine, however, is inclined to think that it is due to a cutting off of the blood-supply in an anæmic and broken-down person by the exercise of pressure. This pressure may in some cases be the result of lying on one side or the other during a prolonged illness, and is thus nothing more than a gangrene from decubitus.

Noma is generally limited to one side of the face: it rarely attacks the other side. Above, it may reach to the free border of the under eyelid and to the ear. It rarely

passes beyond the border of the lower jaw. The tongue and the eye of the affected side remain untouched. Noma attacks children because, in Krasine's opinion, the amount of blood in the body is relatively smaller than in adults, nutrition-changes are active, and anæmia is quickly produced and has grave consequences. Why the disease should attack little girls by preference is as yet inexplicable.

The treatment of noma has hitherto been by means of local remedies, caustics, the cautery, etc. Krasine, however, speaking from his point of view of the origin of the disease, urges improved nutrition, tonics, stimulants, etc., with simple antiseptic dressing.

A Case of Universal Xanthelasma Planum et Tuberosum.—At a recent meeting of one of the German medical societies (*Deutsche Med. Wochens.*, 1881, No. 23) Dr. Korach described the case of a woman of 25 suffering with chronic icterus, the result of total closure of the ductus choledochus of some standing. In addition to the typical patches of xanthelasma on the eyelids, the affection existed in the various parts of the body generally. While the extensor surfaces of the upper and lower extremities, as well as the nates, showed chiefly the tuberose form, the flexor surfaces displayed the flat or macular variety. In the palm of the hand and the volar surface of the fingers and thumb the patches of xanthelasma followed in confluent form the lines and furrows of the skin. Sometimes the patches coalesced into larger areas and were raised above the surface. Certain parts—as the nates, and the extensor surfaces of the knee and elbow—were thickly strewn with sago- to pepper-corn-sized xanthelasma tubercles. The color of the lesions was the typical dull yellow of xanthelasma.

Microscopic examination of the lesions showed hypertrophy of the connective tissue-cells of the corium, with an extraordinary finely-granular (fatty) degeneration or infiltration of the connective-tissue cells. There were no signs of hypertrophy or hyperplasia of the sebaceous glands.

Korach suggested that some cases resembling xanthelasma in external appearance are, in fact, commingled milium grains, as in the case of the affection published by Geber and Simon under the name xanthelasma, and which showed hypertrophy of the sebaceous glands. We have the choice either to give the name "xanthelasma" a purely symptomatic significance, including under this head all those xanthoma formations on the eyelids which chance to be of the same form, color, and general arrangement, or to take an anatomical stand-point, and only to designate as xanthelasma those cases where the lesions, in addition to presenting the typical external appearance, show the microscopic structure of fibroma lipomatodes. Korach urged the latter view, asserting that in all cases heretofore described, that of Simon and Geber excepted, the anatomical appearances were as above described. The xanthelasma in Korach's case was quite acute, having developed within a few weeks. It was accompanied by icterus with much pruritus of the skin, which lasted a month. After a year's stay in the hospital, the flow of bile into the intestine was finally established, and the icterus disappeared, the xanthelasma also fading away to a very considerable extent.

A Singular Case of Syphilis.—At a recent meeting of one of the French medical societies (*Bull. Gén. de Thérap.*, 1881, p. 378), M. Polaillon gave an account of a girl, 12 years of age, who had entered the hospital for a small ulcer on the sole of the foot. Five months and a half previously she had bought a new pair of shoes, and a projecting nail in one of them wounded the sole of the foot. A little later a lump appeared at this point, which soon broke into a deep ulcer. Later, others appeared in the neighborhood, and, joining, formed a phagedænic (?—Ed.) sore with hard, elevated edges, slightly excavated and painless, the girl continuing to go about on her feet. A month and a half after the appearance of the indurated lump the patient fell and struck the tibia. This resulted in the formation of a swelling in the bone, and finally in exostosis. There was no falling of the hair, generalized eruption, sores in the mouth, nor nocturnal pains. The patient was put to bed and the sores dressed with carbolic acid dressing, but no improvement took place. Iodide of potassium was then given, and in five or six weeks the patient was well. The absence of a history made the ulcer rather a difficult one to diagnosticate. Of course, Polaillon does not insinuate that the ulcer was anything more than a late lesion of some forgotten syphilis.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, AUGUST 27, 1881.

EDITORIAL.

WASTED OPPORTUNITIES.

TO the thoughtful mind, the waste of clinical opportunity observable in our large medical centres, and in Philadelphia perhaps no less than elsewhere, appears deplorable and discreditable. While the question of misplaced medical charity and of excessive gratuitous treatment has aroused no little attention, yet it must be remembered that the medical profession at large may be losers in more ways than through the pocket. The scores of young professional men who seize eagerly on each vacant position occurring in dispensaries and out-patient departments of hospitals too often forget that in entering upon the privileges of these posts they at the same time tacitly assume the obligation to themselves as well as to their profession to make the best possible use of the chances offered for recording unusual cases, experimenting with new remedies, or even the collection of statistics. That this may be done is shown by the fact that some of the most creditable papers appearing in our journals or read before our societies are from the few younger men whose only opportunity for clinical research is found in out-patient or dispensary practice. In fact, books reflecting honor on the writers and on the profession of this city have within recent years been written by those who have had no beds in hospitals nor even the large clinical advantages enjoyed by the considerable number of young hospital and dispensary doctors whose chief ambition at times appears to be to get through the day's work and have it over with, and who are content to prescribe "house-mixtures" and "Pill 3" or "4" as the quickest way of disposing of cases, while numerous problems to be solved are lying ready to hand and calling for study and investigation.

Bacon, in an oft-quoted aphorism, says that "every man is to be held a debtor to his profession; from the which as men of course do seek countenance and profit, so ought they of duty to endeavor themselves, by way of amends, to be a help and ornament thereunto." Would that this wholesome sentiment could be graven on the walls of every hospital and clinic!

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

A CONVERSATIONAL meeting was held at the Hall of the College of Physicians, Philadelphia, March 9, 1881, Dr. Albert H. Smith, President of the Society, in the chair.

Dr. Albert H. Smith read a paper entitled "Clinical Notes of a Case of Twin Pregnancy" (see page 744), and Dr. Wm. S. Little read one on "Symptoms (Reflex) in and about the Eye, due to some Affections of the Uterus or its Appendages" (see page 581). A vote of thanks was tendered by the Society to Drs. Smith and Little for their interesting communications.

DISCUSSION UPON DR. SMITH'S PAPER.

Dr. O'Hara said that in two cases of albuminuria of pregnancy this symptom improved under the use of the benzoate of calcium, but in a case of scarlatinal Bright's disease he had not seen any benefit. As regards the causation of puerperal albuminuria, he thought that if the condition were solely due to the pressure of the enlarged uterus upon the kidneys the albuminuria would continue until the termination of the pregnancy, and would not admit of relief by remedies. He inquired whether the lecturer believed that a diagnosis of twin pregnancy can always be made prior to delivery. Dr. O'Hara reminded the lecturer of a case in which twin pregnancy was suspected by him upon examination, but which proved to be only a case of single ovum. The speaker did not think that a twin pregnancy would be more likely to be associated with albuminuria than an equally large gravid uterus containing a single fœtus.

Dr. Horner, of Virginia, being invited to take part in the debate, thanked the lecturer for his interesting paper.

Dr. W. R. D. Blackwood inquired whether the lecturer had had any experience with the remedy in any other cases than in pregnancy. Differing from the last speaker, he believed a twin pregnancy more liable to be complicated with albuminuria than a single pregnancy, because in the latter pressure from the gravid uterus is more upon one kidney, generally the right, while in the twin pregnancy the pressure is made upon both kidneys.

Dr. Henry H. Smith asked in regard to the utility of the lime in the combination. Benzoic acid is generally known to be very useful in many forms of renal disease, and especially in catarrh of the bladder. Dr. Bird, in his work on the urine, refers to the value of this agent, and especially mentions enlarged prostate with irritable bladder. He, therefore, inquired whether it was the benzoic acid or the lime that was effective in the cases reported by the lecturer. An incidental advantage in giving the benzoic acid alone is that it can be given in solution, whereas the benzoate of calcium must be given in powder.

Dr. Albert H. Smith said that he had no doubt that the lime was of service. For a long time he had treated chronic Bright's disease with various forms of lime, especially lime-water. with good results, giving it in large doses, especially in anæmic cases, with iron and cod-liver oil, and saw decidedly better results than when it was omitted. He had remarked before that he had also tried the other salts of benzoic acid, potassium, and sodium, but without equal benefit. He then determined to combine the lime with the acid, and accordingly had some of this salt made for him; the results of the trial were highly satisfactory. In regard to the diuretic action, he would say that he had seen a decided increase in the flow of urine, not only in pregnancy but in other cases.

The question in reference to the relationship of twin pregnancy to albuminuria opened up the whole subject of the causation of albuminuria in pregnancy, which did not legitimately come under discussion; but he would say that in many cases the pressure appeared to be the sole cause of the symptom. We know that in fibroid tumors pressure produces congestion of the kidneys and albuminuria: if we admit this as a cause in enlargement of the uterus from other causes, then in twin pregnancy there is greater cause for albuminuria than in single, because there is greater enlargement and greater pressure.

With regard to the diagnosis, he called attention to the fact that the case referred to by Dr. O'Hara was examined before the seventh month. There was enormous adipose enlargement of the abdominal walls, and, as was afterwards shown, amniotic dropsy, and it was only possible at that time to give a probable diagnosis. In the great majority of cases, towards the termination of the pregnancy we can make a diagnosis easily between single and twin pregnancy. This matter of diagnosis by external manipulation, although a comparatively recent teaching, has now become so thoroughly incorporated into the obstetric art that no thorough course of school teaching is without it. Not only should every student of medicine be taught it theoretically, but to be competent for a degree it should be a matter of individual clinical instruction in every first-class collegiate course. The English and American comprehensive treatises are defective generally in their handling of this important subject, while the French and German systematic treatises on obstetrics have many pages devoted to its details, and we have in the exhaustive monograph of Pinard of Paris, and even more thoroughly in that of our distinguished fellow-countryman, Dr. Mundé, this subject so fully handled and made accessible to the profession as to leave no excuse for its not being an art at the complete command of all the newly-made practitioners of medicine; and yet the lecturer was sorry to have to admit that the only medical school in Philadelphia where external palpation is at all taught as a means of diagnosis, or any stress laid upon it, except in rectifying malpositions otherwise discovered, is at the Women's Medical College, where it is not only thoroughly taught, but the students practised by their professor of obstetrics, regularly and compulsorily, upon the Pinard & Budin manikin, in the diagnosis of presentations and positions by external manipulation, and, as opportunity offers, upon the living subject in the hospital. It is to be hoped that before long the great schools of our city will furnish the same complete instruction.

In reply to a question about the solubility of calcium benzoate, he said that eight or ten grains could be dissolved in a tablespoonful of any syrup and water. It is soluble in the mouth, and has not an unpleasant taste. The other salts of benzoic acid cause a residual nausea from their lingering upon the palate, which is not the case with the calcium salt.

A conversational meeting of the Society was held at the Hall of the College of Physicians, Philadelphia, June 8, 1881, Dr. Albert H. Smith, President of the Society, in the chair. Dr. Carl Seiler read a paper on "A New Form of Galvano-Cautery Battery" (see page 749).

DISCUSSION.

Dr. A. D. Hall approved of the battery, and indorsed its claims for convenience of application. In a case of purulent otitis media, with perforation of drum of the ear, in which the stump of a polypus kept up the irritation,

he had applied the usual remedies without effect. He then thought of the galvano-cautery, and Dr. Seiler applied it with his battery with excellent result. This case demonstrated the prompt and efficient working of the battery in a most gratifying manner. This would be of great value in the treatment of fistula of the lachrymal sac, and is the only method that will cure this difficulty, the flow of the tears preventing the ordinary actual cautery from acting.

Dr. A. H. Smith noticed the convenience of use and portability of the apparatus, and said that any form of mechanism which tends to make the galvano-cautery more available would be of great service, especially in gynæcology. He had found the old forms of battery so troublesome and unreliable that he had adopted the Paquelin cautery, on account of its ease of management and comparative cheapness. It has, therefore, almost entirely driven out the moxas and actual cautery from surgery; and yet there are some cases of amputation of the cervix where an elevated position of the diseased mass, with firm fixation, and a close vulvar outlet, render its use difficult, and a galvano-cautery with wire écraseur, perfectly reliable and manageable, would be a great desideratum.

Dr. J. Solis Cohen took the opportunity of expressing his admiration of the mechanism by which the elements are lifted in and out of the fluid with a facility which was obtained in no other form of battery with which he was acquainted. He regarded it as a very great improvement over the ordinary galvano-cautery batteries. For ordinary purposes it supersedes the Paquelin *thermo-cautère*. The reason why galvano-cautery failed of general adoption before was because those using it often did not understand the physical laws of electricity; the battery would get out of order, and they would not know why. The best plan under such circumstances would be to call in the services of an electrician, who would put the battery in good order; the expense would be money well invested.

Dr. Blackwood regarded the form of office battery presented as a decided advance, the old form being expensive to get and to keep in good repair. The usual difficulty in batteries is on account of the connections, which get rusty and out of order.

Some years ago he published a communication in reference to constructing batteries, and showed how cheaply they could be made. Subsequently many letters of inquiry were received, showing the interest taken in the subject. He subsequently explained in the *Medical and Surgical Reporter* how to make a cheap galvanic battery.

He saw an advantage in connecting below the fluid rather than above it. In the ordinary plan it is exposed to the fumes of the fluid, and the connection may thus be entirely eaten away. Of course, when this happens, the battery refuses to do its work until it is put in good order again.

Dr. Seiler, in reply to a question as to the maker of the battery and the cost, said that he made the one presented at a cost of not over five dollars, but it was rather rough. Flemming and Talbot, of this city, propose to make them shortly in an improved case, at a cost not to exceed that of an ordinary portable battery.

On motion, the thanks of the Society were tendered to Dr. Seiler for his interesting and valuable communication. F. W.

A conversational meeting was held at the Hall of the College of Physicians, Philadelphia, June 23, 1881, Dr. Albert H. Smith, President of the Society, in the chair. Dr. George C. Harlan read a paper on "Fatal Otitis" (see page 750), and exhibited a number of interesting specimens and preparations.

DISCUSSION UPON FATAL OTITIS.

Dr. Chas. S. Turnbull expressed his interest in the valuable paper, especially as it treats of such an important subject to the practitioner and illustrates the dangers of neglecting chronic suppurative ear disease. He would say a few words as to the pathology of abscess of the cerebellum accompanying chronic purulent inflammations of the middle and internal ear. Such are now generally recognized as occurring in connection with chronic purulent otitis media or interna, and are caused by the escape of pus through a perforation in the roof of the tympanum, or through the labyrinth and internal auditory canal, and are the result of pressure. In several cases in which he had examined, and subsequently made post-mortem examinations, he had found a distinct abscess in the substance of the cerebellum, within a thoroughly organized abscess-wall, and enclosed in a pyogenic membrane. Politzer, Gruber, Zuckerkandl, Weber-Liel, and most of the Vienna and Berlin aurists, acknowledge that abscesses of this kind are generally caused by direct pressure, which causes breaking down of the cerebellar tissue, referring, of course, to those in which there is no direct extension of the inflammation. Too much cannot be said with regard to the danger of cerebellar disease as a result of neglected purulent otitis media: they may be fatal even when the internal ear is not at all involved.

As regards the use of strong solutions of nitrate of silver, the speaker could not approve, but rather deprecated, their use in such cases. The insufflation of powders is now used in preference to such applications. Experience has taught us to rely upon boracic acid chiefly, but iodoform or alum may also be employed with benefit. He would especially recommend *finely powdered* boracic acid insufflations in purulent disease of the

middle ear. Polypi, of course, should be removed, not by the forceps, but by the wire loop or snare of Wilde or Gruber. The reason that so few fatal cases are reported at present is that physicians of the present day, as a rule, have a much better knowledge of diseases of the ear, and conservative surgery is the rule rather than the exception. If boracic acid is used for insufflation, it should be finely powdered; coarse powders do more harm than good. When properly applied, it is one of the best antiseptic remedies we possess for the treatment of purulent inflammation of the middle or internal ear.

Dr. J. L. Ludlow said that he had treated a great many of these cases with discharge from the ear, and considered that there is a great deal of groping in the dark in regard to them. He had found experts, even, making serious mistakes in diagnosis. He referred to a case of a physician who, after an attack of pneumonia, suffered with agonizing pain in his ear, radiating also from the mastoid process down the cervical region and to the front on the face. Two specialists saw him in consultation with Dr. Ludlow, but could not agree as to the existence of mastoid inflammation. The speaker found a swelling under the ear in the fossa, pressure upon which caused bulging in the floor of the auditory meatus. The next morning the abscess opened spontaneously in front of the membrana tympani. Here was a case that narrowly escaped trephining of the mastoid cells, but entirely recovered without it.

Many cases of cold in the ears get well without special treatment. In Barbadoes the negroes squeeze cockroaches into the ear for earache. The treatment in civilized communities varies. He himself usually preferred a preparation of hyoscyamus in oil; he had great confidence in it, as it gives great relief.

Dr. C. B. Nancrede reported a case of a man, fifty years of age, who entered the Episcopal Hospital with facial paralysis, and an extensive abscess involving the left temporal region, though not much in advance of the ear. The temporal bone was principally affected, and, upon examination, was found to be bare for several inches, especially over the mastoid process. The patient was completely deaf in the left ear. After free opening and drainage was accomplished, he was completely restored, the bone became covered, and he regained his hearing.

Dr. F. Woodbury observed that an acute otitis media often caused necrosis of the chain of bones and permanent damage to hearing in the course of a few days, and he considered it highly reprehensible for a physician to simply order some drops for the earache without examining into the condition of the membrana tympani, which is accomplished with facility even in young children. He had been surprised by the curative effects of simple treatment upon perforations of the membrane, when recent. He urged that the recommendations of the paper might not pass unheeded: any patient suffering with a discharge from the ear should be regarded as being threatened with fatal cerebral disease.

He mentioned the case of a lady patient, who, as a child, and while under the care of a homœopathic physician, had a neglected ear-discharge following scarlet fever. When the speaker examined her ears, he found that the membrane and chain of bones were entirely gone on both sides. Although slightly deaf, her hearing was fairly preserved; some days she could hear better than others. She did not use an ear-trumpet.

In conclusion, the use of potassium permangate solution was opposed by the speaker on account of the oxidizing and hence caustic effects of the salt. He believed that he had seen perforation of the delicate membrane of the tympanum due to the well-known action of the salt upon organic matter. The experience of the lecturer was requested upon this subject.

Dr. Harlan, in closing the discussion, said that there was one important point in the anatomy of the petrous portion of the temporal bone that deserves discussion,—*i.e.*, the asserted facility of communication between the internal ear and the internal auditory meatus, whether or not fluid does pass readily from the labyrinth to the general cavity of the skull. He referred to the statement of Hyatt, that the fluid in the internal ear has the same composition and is probably identical with the cerebro-spinal fluid, and the conclusion that in the normal ear it passes readily from the labyrinth to the brain. After careful examination of the skull in a case which had suffered with a chronic discharge, and in which he had observed particularly that the labyrinth was entirely covered, but was not carious, he was unable to find any openings in the cribriform fascia, or at least none large enough to permit the passage of fluid. The colored injection, however, passed readily through it. He then procured a normal temporal bone and poured the liquid colored with aniline blue into the labyrinth, and with a tube endeavored to force the fluid through, but found that there was not the slightest passage of the injection. He was therefore led to conclude that in the former case the communication was due to a pathological cause.

In regard to the potassium permanganate, properly diluted, he did not think that it would cause perforation of the membrane, but it is generally caused by the disease for which the remedy is used.

In reference to the mistakes of aural surgeons, they being like other men, he supposed that they cannot claim infallibility, but thought that they probably would be less likely to make errors of diagnosis in a class of cases with which they are continually

brought in contact than physicians, who see such cases only occasionally. The instance quoted by Dr. Ludlow was a beautiful illustration of a case of mastoid abscess opening spontaneously. This was a rare result; but the patient might have been saved much suffering if the operation referred to had been performed early in the case. The operation is not a serious one, and has been frequently performed, with only one fatal result, which was not attributable to the operation. Where there is purulent inflammation in this region, it is only common sense to lay open the part freely and permit the discharge of pus. There is no portion of the human body in which it is more important to give exit to pus than in disease of the mastoid cells.

A vote of thanks was unanimously tendered to Dr. Harlan for his instructive and interesting paper.

EXAMINATION OF THE SCHUYLKILL WATER.

Dr. Leffmann read a "Note on Schuylkill Water in its Hygienic Relations." (See page 756.)

Dr. C. K. Mills inquired as to the effect of the cemeteries upon the banks of the Schuylkill upon the potability of the water and its wholesomeness.

Dr. Blackwood called attention to the amount of sewage that flows into the Schuylkill from the large towns which it drains in its course. For instance, the entire drainage of the Little Schuylkill region goes down the two rivers. So impure is the stream that near Pottsville the fish cannot live in it,—perhaps owing to its containing sulphuric acid. Doubtless it settles and purifies itself a good deal by oxidation on its way down; but it receives the drainage of Norristown, Spring Mills, Conshohocken, and numerous other populous places nearer the city, so that the amount of drainage coming down the Little Schuylkill region makes very little difference.

With regard to the Delaware water, he inquired where the sample was taken from. Above Trenton the Delaware must be comparatively pure, but near Kensington it is very foul. Gunner's Run is simply an open sewer, and the supply for the water-works is pumped directly from its outlet for delivery in Kensington for drinking-purposes.

With reference to the cemeteries, the popular idea is that the nature of the ground and the direction of the rock-strata at Laurel Hill carry the drainage away; but much of it goes into the Schuylkill, as does that from Glenwood and West Laurel Hill. Under ordinary circumstances a dead body affects the ground only to a very slight extent; but in rainy seasons there is washed into the Schuylkill a great deal of impurity from the cemeteries.

Dr. Leffmann, in reply, said that Laurel Hill does not seriously pollute the water. The Park lines extend for five miles along the river, which gives it time to purify itself before reaching Fairmount. In this distance there is only one stream that really bears sewage, and that empties into the river near the Girard Avenue Bridge.

The samples examined were taken from hydrants, which is the best way of getting at the water as delivered.

The Schuylkill in its upper part contains much iron and sulphuric acid; it then passes through a limestone region, where these are carbonized and precipitated, carrying with them organic matter. It is further purified by the slow current and the breadth of the stream, especially near Manayunk, which absorbs the air and favors oxidation.

On motion of Dr. H. H. Smith, the Committee on Hygiene were authorized to publish the results of Dr. Leffmann's examination of the water-supply of Philadelphia. The thanks of the Society were also tendered him by the usual vote. F. W.

REVIEWS AND BOOK NOTICES.

THE FIRST BABY: HIS TRIALS, AND THE TRIALS OF HIS PARENTS. By JEROME WALKER, M.D., Physician to the Sea-Side Home for Children, Coney Island, etc. New York, Brown & Derby, 1881. 12mo, pp. 203.

A companion book to "Helen's Babies," we should judge from the style and contents. We learn from the introduction that the present work is a revised edition of a former book by the same author, called "How We raised Our Baby," which has enjoyed some popularity. Dr. Walker takes us into an imaginary family circle, gives all the nursery tattle and old wives' gossip connected with the advent and early months of baby-life, and draws a picture of domestic felicity which the hardened bachelor may well chuckle with self-gratulation at having escaped. Amid this chaff certain grains of medical wisdom are asserted to lie concealed. We have not, however, found such, and would recommend lay and medical readers alike to abjure this gallimaufry in favor of any one of the really scientific and practical little books on the care of children which have recently appeared.

A TREATISE ON CONTINUED FEVERS. By JAMES C. WILSON, M.D., Physician to the Philadelphia Hospital, etc. With an Introduction by J. M. Da Costa, M.D. New York, William Wood & Co., 1881. 8vo, pp. 365.

This excellent and practical treatise is one of "Wood's Library of Standard Medical Authors," and is above the average even of that well-selected series. Simple continued fever, influenza, cerebro-spinal fever, enteric or typhoid fever, typhus fever, relapsing fever, and dengue are each treated of in successive chap-

ters with as much fulness as the space allows, and with a judicious mingling of the scientific and more purely practical. Dr. Da Costa's introduction is a graceful exordium to the work of his younger professional brother, and, while nothing more than a brief account of this distinguished physician's personal views as to the general management of fever cases, gives a pleasing *imprimatur* to the work following.

A Practical Treatise on Impotence, Sterility, and Allied Disorders of the Male Sexual Organs. By Samuel W. Gross, A.M., M.D., Lecturer on Venereal and Genito-Urinary Diseases in the Jefferson Medical College of Philadelphia, etc. With Sixteen Illustrations. Philadelphia, Henry C. Lea's Son & Co., 1881. 8vo, pp. 174.

Dr. Gross's aim has been to supply, in a compact form, practical and strictly scientific information especially adapted to the wants of the general practitioner. He considers the subjects of impotence, sterility, spermatorrhœa, and prostatorrhœa in succession, giving illustrative cases from time to time, with a full account of the treatment. Dr. Gross considers that sterility in the male has not received so much attention as it deserves. In one unfruitful marriage out of six the male is at fault. A peculiar theory of the author, and one the validity of which we fancy will not be conceded by some other specialists, is that masturbation is the cause of stricture.

GLEANINGS FROM EXCHANGES.

Milk Indigestion in Young Children. —Dr. Eustace Smith, in an article on this subject in the *British Medical Journal* (vol. i., 1881, p. 877), says that when indigestion is due to catarrh of the stomach it is readily amenable to treatment. All that is necessary is to put a stop to the milk for a day or two, and to clear away the curd by a full dose of castor oil. If, however, the fault be in the milk, and not in the digestive organs of the child, some change in the method of feeding is indispensable. In one case where curdling took place, with resultant griping and indigestion, and where various remedies had failed, Dr. Smith at last adopted the plan of giving the child barley-water from a bottle immediately before he took the breast, in the hope that by this means the milk might be diluted directly it reached the stomach. This method succeeded perfectly, and the child had no further unpleasant symptoms.

In cases of gastric catarrh, when the complaint is acute and severe, vomiting is usually the most prominent symptom. Under such circumstances milk becomes a positive poison, and no hope of alleviating the symptoms can be entertained while this diet is persisted with. In the case of an infant two months old, brought up by hand and fed upon milk and barley-water, uncontrollable vomiting and diarrhœa had reduced it to the last extremity. Dr. Smith directed a weak mustard poultice to the epigastrium. The milk was stopped and the child fed with weak veal-broth and thin barley-water mixed together in equal proportions and given cold at intervals with a teaspoon. A few drops of brandy were given occasionally, as seemed desirable. As a result of this treatment the vomiting stopped at once, and the child, when seen three days afterwards, was found to be much improved, and was cured by the end of a few days' further treatment. The most important part of the treatment in this case was the substitution of veal-broth for milk. Directly the supply of fermentable matter was stopped, fermentation ceased, acid was no longer formed, and the digestive organs returned to a healthy condition. Here the derangement was acute.

Another case of a chronic character is cited by Dr. Smith, where a little girl ten months old had been fed first with milk, then wtth farinaceous food, and later with beef-tea. She vomited everything and was growing extremely emaciated. Such a case is treated, he says, by restricting the diet to equal parts of weak veal-broth and thin barley-water, given cold, in small quantities at a time, by warmth to the belly and extremities, by perfect quiet, and by suitable remedies. The best sedative is Fowler's solution,—half a drop for the dose,—given with a few grains of bicarbonate of sodium in some aromatic water. After a few days of such treatment the power of digesting milk usually returns. But at first it should be given sparingly, freely diluted with barley-water, and only once or twice in the day.

Looseness of the bowels is a common consequence of milk indigestion. Such cases, seen in the early stage, are sometimes spoken of as cases of "inactive liver," the white stools being supposed to be merely the result of insufficient biliary secretion. Cholagogues are, however, in such cases quite useless. The stools are white because they consist of curd mixed with the farinaceous matter which is usually given in large quantities at the same time; and their character can only be improved by a complete change of diet. When a chronic diarrhœa is regularly established, the cases are very often called "consumption of the bowels." It is needless to say that they have no relation at all to "consumption," but are a purely functional derangement, a chronic catarrh of the bowels, excited and maintained by indigested food.

In another case cited by Dr. Smith, where a child of fourteen months was wasting away with chronic diarrhœa, the diet of milk and sago was changed, and the child was fed in-

stead with whey and cream, veal-broth and barley-water, yolk of eggs, and "Mellin's food" dissolved in barley-water. Iron and arsenic were also administered, and later quinine and cod-liver oil. Dr. Smith does not think well of beef-tea for children, and prefers veal-broth.

WHITLOW.—In a clinical lecture on whitlow (*Medical Times and Gazette*, vol. i., 1881, p. 667) Mr. Christopher Heath says that the subject is meagrely treated of in the text-books. If met with in the earliest stage, when the finger has just begun to redden and tingle, a twenty-grain solution of nitrate of silver, or the silver stick wetted and lightly pencilled over the affected part and a little beyond, checks it at once. When the whitlow is a little more severe,—that is, when pus forms about the nail or the tip of the finger,—the cuticle, which is insensitive, may be incised. Occasionally, however, when a foreign body has found its way beneath the nail, pus forms there and gives rise to excruciating agony from the tension beneath unyielding structures. Judicious cutting away of the nail will relieve this if near the margin; but if near to the base, it is much better to pare down to the nail with a sharp knife until the matter is let out than to resort to the unnecessary cruelty of removing the entire nail.

The third kind of whitlow is really an acute necrosis of the terminal phalanx, following periostitis and suppuration beneath the periosteum, just as it does in the case of a long bone. A very slight injury—the prick of a needle or a pin—may set it up. After some hours' uneasiness, the pain becomes acute and throbbing, and entirely prevents the patient sleeping. If timely relief is not given, pus will very slowly make its way to the surface of the finger, but never up the sheath of the tendons, and, when discharged, will leave the greatest part of the phalanx bare and dead behind it. A timely and free incision is the only mode of saving the phalanx, and cannot be resorted to too early; for, if no pus be present, the inflamed periosteum will still be divided with great relief to suffering. The finger should be held firmly on a table, and the surgeon, entering his knife just above the transverse interphalangeal mark in the skin, should cut boldly down to the bone in its whole length from base to apex. When, as so often happens, these cases have been treated domestically with "soap and sugar" and poulticing until the end of the finger is riddled with sinuses, there is nothing to be done except to extract the necrosed phalanx as soon as it is loose and to bring the finger into shape by careful water-dressing applied in strips. The base of the phalanx usually survives, giving a point of attachment to the tendons.

Inflammation of the skin and subcutaneous tissues may occur in any part of the finger. Incisions must here be made with care, so as not to open the theca or sheaths of the tendons, which then invariably slough, and the patient is left with a useless finger. For this reason incisions on each side of the finger are safer than one in the centre, that may unawares let out the tendons, which will look perfectly healthy at the moment, but soon become sodden and softened.

The synovial sheaths of the flexor tendons of the thumb are often, though not always, in direct communication with the synovial membrane of the annular ligament of the wrist, and hence pus is rapidly conducted in this way up to and, if not relieved, into the forearm.

There is much difference in the importance of saving the different digits. The thumb must be saved at all hazards. The middle and ring fingers are comparatively unimportant, and, if stiff, are apt to be in the way. A stiff forefinger is better than none.

EARTH-WORMS AND ANTHRAX.—A report has been made by M. Villemin in the name of a commission appointed by the Académie de Médecine to investigate the statements of M. Pasteur as to the presence of the germs of anthrax bacteria in the soil, and their transportation by earth-worms. These statements of M. Pasteur have been contradicted by M. Colin, of Alfort. In the investigations of the commission, they first inoculated five guinea-pigs with earth taken from the soil over a trench in which animals dead of anthrax had been buried twelve years previously. All the guinea-pigs died,—the first four from septicæmia, the fifth from well-marked anthrax; and the latter presented numerous bacteria in the blood of the heart and the spleen, which organ was considerably enlarged. A second similar series of guinea-pigs were inoculated with earth from above a pit in which animals dead of the disease had been buried for three years. The first four of these also died of septicæmia, and the fifth of anthrax, with characteristic bacteria. A third series were inoculated with "virgin soil,"—*i.e.*, earth from a spot in which, within living memory, no animal dead of anthrax had been buried. All of these continued well, presenting only at the point of the inoculation a small nodosity the size of a nut and consisting of an abscess enclosed in a pyogenic membrane. The first two of these experiments with the suspected earth were repeated, six guinea-pigs in all being inoculated. Of these all died,—five of septicæmia, the sixth of anthrax. Two other guinea-pigs were inoculated with blood from the animals to which anthrax had been communicated in the first two series of experiments, and both died of the same disease. A drop of blood taken from the ear of one and "sown" in some decoction of food reproduced pure and abundant anthrax bacteridia. Some worms were also taken from the earth over the pits in which the animals had been buried three and twelve years before, and

their excrement (the worms being still alive) was diluted with a little distilled water, and with it three guinea-pigs were inoculated. Of these two died of septicæmia, and the third from anthrax. Other three guinea-pigs were inoculated with the excrement of worms taken from the soil beneath which, during the Commune, human bodies had been interred. One of the guinea-pigs died of septicæmia; the other two continued well. Lastly, the excrement of worms collected over the trench in which the animals had been buried for twelve years, and treated by "cultivation," gave rise to a rapid production of bacteridia, which, inoculated into two guinea-pigs, caused the death of both by anthrax. The experiments and report thus give a triumphant corroboration to the assertions of M. Pasteur.—*Lancet*, vol. i., 1881, p. 877.

FAURÉ'S SECONDARY OR STORAGE BATTERY FOR MEDICAL USE.—Dr. George Buchanan (*British Medical Journal*, vol. i., 1880, p. 914) is the first practitioner to have used the new storage battery, the invention of which was hailed with so much enthusiasm by Sir William Thompson, the physicist, a month or so ago. The new battery consists of a cylindrical vessel of lead nine inches high and five inches in diameter, with a leaden bottom, but open at the top; in this is packed a kind of cushion which has the power of absorbing electricity. To this vessel are attached the poles of a working battery; and so long as the connection is maintained, the vessel accumulates the electricity flowing into it. When charged, it can be detached from its connection and kept for a long time, or carried from place to place like the jars of compressed carbonic oxide used for anæsthetic purposes. When required for use, the cushion, which should always be kept moist, is wetted with dilute sulphuric acid, and wires connecting are attached to its poles, when it is converted into a powerful battery. Dr. Buchanan has recently removed a nævoid tumor of the tongue by means of this battery, using a platinum wire écraseur. It can be managed without the least difficulty.

SKIN-GRAFTING FROM THE DEAD SUBJECT.—Dr. Girdner (*New York Medical Record*) has done this with success in a burned patient, the grafts having been taken from a suicide six hours after death.

MISCELLANY.

PRIZES OF THE ALUMNI ASSOCIATION OF THE ALBANY MEDICAL COLLEGE.—The following prizes are open to competition during the coming year: 1. A "Surgical Prize" of one hundred dollars for the best essay on "Colles' Fracture: its Pathology and Treatment," to be accompanied by a pathological specimen illustrating the fracture with or without dislocation of the ulna, or a careful dissection of the hand, wrist, and forearm. 2. A "Surgical Prize" of fifty dollars for the second best essay on the above subject. 3. A "March Memorial Prize" of one hundred dollars for the best essay on "The Pathology and Treatment of Morbus Coxarius." 4. An "Armsby Memorial Prize" of one hundred dollars for the best essay containing "A Minute Description of the Genito-Urinary Organs of the Male," together with a carefully-dissected specimen of the same. 5. A "McNaughton Memorial Prize" of one hundred dollars for the best essay on "Antisepsis in the Treatment of Diseases."

Essays and specimens, designated by a motto and accompanied by a sealed envelope enclosed with the same motto and containing the name and address of the author, must be sent to the Secretary, Dr. W. G. Tucker, by the 14th day of February, 1882. The committee to examine the essays for this year will consist of Drs. A. Van Derveer, J. S. Mosher, and Lorenzo Hale; and they reserve the right to reject any or all of the essays if not deemed worthy.

All specimens are to be deposited in the New Museum of the College, properly labelled.

OBITUARY.—Dr. Maurice Raynaud, the distinguished and eloquent French physician who was to have delivered one of the addresses before the late International Congress in London, died quite suddenly on the 29th of June, in the forty-seventh year of his age.

Dr. Raynaud was a cultivated physician, having written several medico-literary essays, among others one on "The Physicians of Molière's Time," which was quite well known. He was the most eminent and proper candidate for the chair of History of Medicine in the Faculty of Paris when this became vacant a few years since; but Raynaud was a man of decided religious convictions, and this, in the eyes of the atheistic bigotry which miscalls itself "liberalism," and which just now rules France, was sufficient to condemn a man, however illustrious by his merits.

TREATMENT OF RINGWORM OF THE HEAD.—Dr. Besnier recommends the following:

℞ Acidi boracici, gr. xv;
Sulphur. sublimat., gr. xv;
Vaselini, ℥j.

GLYCEROLE OF THYMOL.—

℞ Thymol, 1.0;
Glycerin, 25.0;
Alcohol, 25.0;
Water, enough to make 500.0.—M.

Useful in pityriasis.

THE USE OF A COMBINATION OF SALICYLIC ACID AND CAMPHOR AS A SURGICAL DRESSING is suggested by Dr. Lajoux, with the idea that the salicylic acid would act on the albuminoid ferments, and the camphor on the organisms of wounds. The compound has been employed by Dr. Heural, it is said, with satisfactory results. It was far more effica-

cious than any other application in a case of ulcerated lupus in a syphilitic patient, the sores immediately assuming a more healthy aspect and soon healing. A phagedænic ulcer of the fourchette which had lasted for six months was healed in a fortnight.

SIMPLE REMEDY FOR CHAFE.—Bathe parts well in tepid water, dry well with soft cloths, and apply, by means of a soft sponge or cloth, the following:

℞ Zinci acetatis, gr. xv;
Morphiæ acetatis, gr. ij;
Glycerin., aq. rosæ, āā ʒij.—M.

Ft. sol.

Sig.—Apply to chafed parts twice or thrice a day.

ADMINISTRATION OF MEDICINE BY THE NOSTRILS.—By Dr. Fernet's suggestion, the patient is laid on his back, with head and shoulders slightly raised by pillows. The liquid is to be poured slowly into the back part of the nares by means of a very pointed spoon or other agent, and when it reaches the pharynx it induces a movement of deglutition. Adroitly performed, food may be given in this way as well as by the mouth.

STYPTIC COLLOID.—

℞ Collodion, 100.0;
Carbolic acid, 10.0;
Tannic acid, 5.0;
Benzoic acid, 5.0.

Mix the ingredients in the above order. It instantly coagulates blood, forming a consistent clot under which wounds will readily heal.

CURE FOR RINGWORM (MORRIS).—

℞ Thymol, 0.5 to 1.0;
Chloroform, 4.0;
Olive oil, 12.0.—M.

The thymol destroys the fungus, the oil prevents irritation and rapid evaporation, while the chloroform facilitates the absorption of the active ingredient by acting on the sebaceous glands.

WHAT IS FILTH?—The English health authorities have decided that decaying vegetable and animal matter, rotten fish, the refuse of slaughter-houses, and human excrement are to be regarded as "filth." "Ordinary stable and cow-house dung," however, it appears, does not come under this designation. Good news to those who consider stable odors "healthy."

AN IMPROVEMENT IN THE PRESERVATION OF DEAD BODIES AT THE MORGUE.—The municipal authorities of Paris have adopted the refrigerating apparatus of MM. Nignon and Rouart, at a cost of about ten thousand dollars. Bodies are frozen and can then be kept on view indefinitely without decomposition. The atmosphere of the Morgue is also much improved.

AN UNNECESSARY SCARE.—Lincoln & Bennet, the famous London hat-makers, assert that no change for the smaller has taken place in hat-measurements of late years.

NOTES AND QUERIES.

PHILADELPHIA, August 17, 1881.

EDITOR OF THE PHILADELPHIA MEDICAL TIMES:

DEAR SIR,—My mite of contribution to the discussion on "Vaccination" at the meeting of the Philadelphia County Medical Society, as printed in the *Times* of August 13 (p. 729), is certainly very "*funny-graphically*" reported. I said, or *tried to say*, that I had used animal vaccine very largely, and had seen many of the spurious vaccinations described by Dr. Welch. They had occurred in the use of every form of animal vaccine (crusts, cones, quills, and points), procured from different sources of supply. As a curious fact, I stated that I had seen the "cowpox raspberry" and a typical vaccine vesicle side by side on the same arm and resulting from the use of the same point of virus. As a contribution to the value of vaccination by the much-abused public vaccine physicians, I stated that in a series of over six thousand successful vaccinations in the district under my care I had been able to trace only ten cases of *varioloid* occurring subsequently to the operation. It is easily to be seen how the printed report could be "fixed up" from the above. But as I have long advocated the *exclusive* use of animal vaccine in the public service, and have been a very large user of it in public and private practice, and with generally satisfactory results, this note of correction seems plainly due from Yours very truly,

HENRY F. BAXTER,
242 Catharine Street.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM AUGUST 6 TO AUGUST 20, 1881.

MCKEE, J. C., MAJOR AND SURGEON.—By direction of the Secretary of War, the leave of absence on Surgeon's Certificate of Disability granted in S. O. No. 177, August 19, 1880, is extended three months. Paragraph 3, S. O. 189, A. G. O., August 18, 1881.

WHITE, C. B., MAJOR AND SURGEON.—Died at Wilton, Conn., August 10, 1881.

STERNBERG, GEO. M., MAJOR AND SURGEON.—Relieved from duty in connection with the National Board of Health, to proceed from Baltimore, Md., to San Francisco, Cal., and report to Commanding General, Department of California, for assignment to duty. S. O. 182, A. G. O., August 10, 1881.

HUBBARD, V. B., ASSISTANT-SURGEON.—Promoted to the rank of Major and Surgeon in the Medical Department, to take effect from the 10th of August, 1881, vice White, deceased.

CORSON, J. K., CAPTAIN AND ASSISTANT-SURGEON.—The leave of absence granted him in S. O. 61, May 31, 1881, Department of Arizona, extended two months. S. O. 179, A. G. O., August 6, 1881.

HALL, J. D., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for one month, with permission to apply for three months' extension, to take effect on final adjournment of G. C. Martial, of which he is Judge-Advocate. S. O. 141, Department of Dakota, August 4, 1881.

SEMIG, B. G., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for six months, with permission to leave the Department of the Platte. S. O. 182, c. s., A. G. O.

PERLEY, H. O., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for four months. S. O. 178, A. G. O., August 5, 1881.

BUSHNELL, GEO. E., ASSISTANT-SURGEON.—Granted leave of absence for fourteen days. S. O. 145, Headquarters Department of Dakota, August 9, 1881.

BUSHNELL, GEO. E., ASSISTANT-SURGEON.—Relieved from duty at Fort Yates, D.T., and to report to Commanding Officer, Fort A. Lincoln, D.T., for temporary duty, on expiration of leave of absence. S. O. 146, Headquarters Department of Dakota, August 11, 1881.

PHILADELPHIA, SEPTEMBER 10, 1881.

ORIGINAL LECTURES.

CLINICAL LECTURE ON DIPHTHERIA.

BY JOHN A. LARRABEE, M.D.,

Clinical Lecturer on Diseases of Children, Hospital College of Medicine, Louisville, Ky.

GENTLEMEN,—I find in the waiting-room this patient, who, though not an infant, illustrates a class of cases to which I wish to direct your attention on this occasion. This patient complains of sore throat,—a term which does not strongly appeal to our sense of the propriety of technical terms, but which, in this case, is nevertheless suggestive. This enlargement here at the angle of the jaw is apparent to you all, and by palpation I find the sterno-cleido-mastoid muscle is elevated by it and there is some stiffness of the neck. Inspection shows the pharynx to be of a dark mahogany-red color and the tonsils studded over with little points of whitish material; and from this examination I take it for granted that the questions I shall now ask will be answered in the affirmative.

"Have you pain in the head?" "Yes." "In both ears?" "Yes." "In which is it greatest?" "In the right." (You observe, gentlemen, the severest pain corresponds to the side most swollen.) "Have you pain in the back?" "No." "Have you pain in your limbs?" "No." "Chilly sensations?" "No." "Do you feel weak and exhausted?" "Yes; have felt so since last Tuesday."

That history, gentlemen, in connection with the local manifestations, is sufficient.

In the first place, our remarks will bear upon that disease known as diphtheria. Perhaps no more important subject can engage our attention for a time. Diphtheria is a disease by no means new. Attention to the literature of the past shows it to have been in existence from the most ancient times. Notwithstanding this is true, authorities in medicine are not at the present time in harmony as to its etiology. Occurring as a sporadic disease, while it may be severe, it seldom results fatally; when it prevails in an epidemic form it is disastrous to human life in proportion as it is a serious malady in sporadic cases.

In regard to the important subject,—its etiology,—in the first place the question arises, is it a contagious disease?—that is, will contact with the breath of the affected person or with the parts produce the disease in a person who is perfectly well? I may as well forestall all argument here and say it will. Diphtheria is a disease of a mucous surface, and is capable of being communicated, as diseases of the mucous surfaces generally are. Even severe catarrhal inflammation attended by secretion of pus may be communicated, and these are communicated with certainty also from one to another.

A very important question as to the commencement of the disease relates to its constitutional or local origin. Is the disease local first and then constitutional, or first constitutional and then local? In the settlement of this question we have the key not only to the treatment, but perhaps to the etiology.

Oertel and many others have found, or think they have, the origin of this disease by the aid of the microscope, in the presence of myriads of little living organisms known as bacteria; and they have even classified these into different varieties as we would classify the different animals. It is supposed by these observers that these organisms, coming in contact with the mucous membrane, produce that which we see in this throat, viz., a diphtheritic patch or false membrane. This theory, then, would necessarily substantiate the local origin of the disease. But, say these observers, the disease, usually at first local and afterwards constitutional, may be first constitutional and afterwards local, because these bacteria may be drawn in with the inspired air and then come out at the throat.

It is best sometimes, in the consideration of these subjects, to group diseases; and I sometimes think the study of diseases and of medicine generally, and especially clinical medicine, is rendered difficult by segregation rather than aggregation. There are certain diseases which should be always regarded in one class, and it is very probable that future investigations will demonstrate that they are due to similar causes. Thus, I would place in one category erysipelatous inflammation, hospital gangrene,

and diphtheria, these constituting a class of diseases which are local and then constitutional, or *vice versâ*. The first proposition admits of demonstration, the last is probably capable of proof.

Take, for example, erysipelas,—a disease which presents itself upon the surface of the body, and generally upon that part of the body most exposed,—not only upon the head, but upon that part of the head most exposed,—the face, and, further, most frequently it appears upon the most exposed part of the face,—the nose. The favorite seat of idiopathic erysipelas is upon the side of the nose. It is a rare thing to find erysipelas attacking parts habitually covered, constantly protected; and when we do, we commonly find associated with it some solution of continuity in which a germ could have been deposited: therefore the proof is in favor of the germ theory of the origin of erysipelas.

Since, then, the atmosphere in which we move and live and have our being is laden with germs capable of producing disease, we are provided by nature with a covering to protect us.

Now, a man who has an erysipelatous patch upon his face frequently notices it before he feels the constitutional symptoms. He consults you, and you ask him questions like these:

Are you sick? No, sir. Have you had a chill? No, sir. Vomited? No, sir. Had no backache? No, sir. Not a single constitutional symptom; but in six hours he will have suffered them all.

Now let us go into a hospital ward and find an individual with a simple wound. To-day it is clean, healthy, red, and granulating; to-morrow it may look dry and free from the laudable pus which bathes the granulations, and a little mycelium scale has formed over it. Now, if you are keen you detect in that condition incipient gangrene. Then, if treatment be not at once instituted, in a short time he has the waxy cast of skin, the pallor, the headache, and the exhaustion. Here we have another form of local disease which afterwards becomes constitutional.

Now, the idea in regard to bacteria seems to me to be a little overdrawn. It seems to me that observers in the future will discover that they have found results rather than causes, inasmuch as from the teeth and gums in health you may get as many bacteria as you can in diphtheria.

Now, how are we able to detect a case of diphtheria? In this case at present the local symptoms are not so well marked, but four days ago had you looked into this throat they would have been distinctly manifest. Let me caution you, gentlemen, to be on the alert for these cases. Whenever there are swollen glands, muscular stiffness, lassitude, headache, an increase of temperature without an apparent cause, examine the throat. Now in regard to differentiation. Is every case of sore throat to be regarded as diphtheria? Certainly not. Then what constitutes the disease? Some of you have practised medicine, and perhaps you have lost a severe case in which were present, in addition to the symptoms I have mentioned, those which accompany the more severe forms of the disease. Now, because you have had such a case, if you are to make it the type by which all other cases must be measured, you will be disappointed. The fetid odor of the breath, the muscular trembling, and the paralysis which sometimes succeeds the attack, are not essential conditions before the disease can be said to exist. With such a standard for diagnosis, you will fail to recognize many of the milder forms of the disease. The attempt has been made to settle this question by saying there are two or three different kinds of diphtheria, two or three varieties of syphilis, scarlet fever, and measles. Now, there is a syphilis, and but one syphilis; the same is true of scarlet fever and measles; but these diseases manifest themselves differently in different constitutions. A seed planted on a hill-side produces one kind of stalk, while the same in a valley produces another. The phases of these diseases will be as varied as the dissimilar systems in which they are implanted. The failure to recognize this fact, along with an insufficient knowledge to render differentiation accurate, has led some writers to recognize a catarrhal diphtheria, while others say a diphtheritic. Such a multiplication of diseases is as unwise as it is unnecessary. Those cases presenting the combination of local and constitutional symptoms will in all gradations, from the mildest to the severest types, be recognized by him in whose mind the features of the disease have been stamped by study and observation as readily as the different nationalities and races of men are distinguished.

In regard to the supposed cause of this disease in cities, as for instance in the epi-

demic which has lately prevailed in Brooklyn and some parts of Massachusetts, where the boards of health have levelled all their blows at the drain-pipes, we may remark that, like a keen hunting-dog, having struck a good scent they stick to it. Having traced such connections between typhoid fever and bad drainage, the tendency is to run everything in that direction.

Out in Leadville, Colorado, I understand, diphtheria rages terribly sometimes. I do not suppose there is a water-closet in the place, much less a sewer. Diphtheria prevails where this gas does not exist.

There is an animal poison capable of reaching into every habitable portion of the globe, and generated wherever human beings have an existence, and that is the poison that results from overcrowding. This poison is generated where miners come together in camps, in soldiers' barracks, wherever people are congregated together. The human family is not different from the rest of animal life in this respect. Every farmer knows the deleterious result from penning up large numbers of sheep together.

Under the old system of fireplaces we heard less of these things, simply because all the ingenuity we could apply could not keep out the cold air; it had to have its supply of air.

Still another morbid condition remains to be differentiated from diphtheria. Essential differences exist between the two conditions, however, though each resembles the other very much in this, that both are characterized by false membranes. In the one case you have the history of the prodromal symptoms, the weariness, lassitude, and headache, and when you examine the pharynx you find the false membrane. The child with the croup is perhaps suddenly seized with stridor, a certain form of cough which, when once heard, is diagnostic for a lifetime, and, more than that, the difficulty in the case of the child with the croup seems to result entirely from the presence of the membrane. Further, this membrane once removed, an apparently healthy surface remains, and with its removal pass away also the symptoms of which the child complained. In diphtheria you may get off the last patch, and in twenty-four hours you may find new ones have substituted those removed. A difference is apparent, too, in the conditions left when nature effects the removal in the two instances. In diphtheria a granulated surface is seen after its removal; in croup a clean, apparently healthy surface. Why, then, if these diseases are so far apart, do we associate them? It is because they are at their extremes so widely different, yet when merged so like in all respects as to require a nice discrimination to decide between them. You may have the larynx invaded by a membrane, and with it all the evidences of diphtheria, and this diphtheritic form of croup is accepted as existing in the nomenclature of medicine. I maintain, gentlemen, that this is diphtheria and not croup at all. This I hold to be true whenever the tendency to recurrence of the membrane exists.

It occurs sporadically by preference in the winter months, and, while the young are especially its victims, it nevertheless is known to occur in extreme old age; while croup is a disease peculiar to infantile life. Again, in croup the deposition of the membrane is confined to the throat; while in diphtheria it may occur wherever there is a mucous membrane; and not only in these situations, but wherever the cuticle layer of the skin has been abraded, a diphtheritic patch may make its appearance. The membrane once expelled in croup, the disease no longer exists; in diphtheria your visits to the patient may have ceased, when all at once the disease is lighted up again, perhaps with renewed severity. Again, it is not unusual to find albuminuria in diphtheria, but very rarely is this manifestation present in croup.

One result among the sequelæ is to my mind pathognomonic as to the nature of the pre-existing disease; that is, paralysis: the involvement of the deeper structures which occurs interferes with the function of the nerves distributed to the parts. Usually the soft palate will hang flaccid for weeks or months. Nothing is more common than to have muscular weakness, if not paralysis, following an attack; a frequent seat of this muscular affection being found in the ocular muscles.

Now, as to treatment. If these points which I have brought forward be true, then nothing seems more conclusive than that our treatment should be both local and constitutional. The constitution, as I have said, is usually invaded before you are called to the case; and, since we regard it as a blood-dyscrasia, that constitutional treatment should be directed to supporting

the life of the blood-corpuscles. You attempt to secure that object in erysipelas and hospital gangrene; and this, as I have said before, is to be regarded as a disease of that type. A disease fraught with danger from the start, you may well imagine, requires not only accurate diagnosis, but prompt and decisive measures of treatment. Muriated tincture of iron, freely and persistently given, should form the basis of your treatment; its astringent property tends to prevent the organization of the membrane, while its effects upon the constitution tend to sustain the life of the patient, and thus enable him to throw off the membrane.

Another point I wish to speak of is this: the use of alcohol has been brought forward as something new by members of the medical profession. Any poison in the blood tending to destroy life by destruction of the blood-corpuscles, as well as by its debilitating effects upon local tissues, indicates a stimulant and a preservative. In alcohol we have the most powerful agent to prevent the destruction of animal tissues. Its stimulant property needs no comments. Give muriated tincture of iron, then, and alcohol with nourishment, but give the iron according to Col. Mulberry Sellers's directions for the use of his eye. Give along with this a whisky-toddy, a milk-punch, or, what is better, Christmas egg-nog, and don't withhold it out of fear of intoxication. The amount of alcohol that can be taken under these circumstances with immunity is astonishing. I have myself given a child, seven years old, a pint of whisky in twenty-four hours, without producing any symptom of intoxication. Now, these, gentlemen, are fundamental principles. Do not, I beg you, in such a case go off into speculations as to the value of carbolites. Carbolic acid is fit for nothing but to smell, and even for that purpose it may be very handsomely substituted. Neither is it necessary to give the sulphites, nor the hyposulphites, nor chlorate of potassium. We have recently seen from Dr. Jacobi, of New York, what we might have supposed before,—that is, that in excessive doses chlorate of potassium is a virulent poison. Then let me insist upon your strict adherence to muriated tincture of iron. Make it a religious duty, and your experience, if it correspond to mine, will give you cause for congratulation.

ORIGINAL COMMUNICATIONS.

DOES ETHER KILL?

BY JOHN GILLESPIE, JR., M.D.

IN the *Medical Times* of June 4, Dr. Roberts reports three cases of death from ether; he also quotes the cases collected by Dawson and by himself. The object of this article is to show that in every instance the death can be proved to have occurred either from disease or other morbid condition or as the result of improper administration of ether. That ether may kill is undeniable, but that it will cause death when properly administered is exceedingly improbable. The proper administration of ether consists solely in watching for the signs of danger: these signs are evident in every case in which ether is doing harm. The action of ether (depressing action) while producing anæsthesia is exerted on the respiratory centres, and death, if it be produced, is produced by paralysis of these centres.

The earlier writers uniformly asserted the perfect safety of ether. Bigelow* mentions but one case in which death followed etherization, and in that case he considers it very doubtful that ether was the cause of death. Snow† mentions two cases of reported "ether death," neither of which he accepts as being such. Dr. Snow, after reviewing his experiments, remarks, "I believe that ether is altogether incapable of producing the sudden death by paralysis of the heart which has caused the accidents which have happened during the administration of chloroform." On the same page is this sentence: "I hold it, therefore, to be almost impossible that a death can occur in the hands of a medical man who is applying it [ether] with ordinary intelligence and attention." Ether has been used in cases in which there was most serious disease of the heart; and I have seen cases of most intense asthenia, in aneurisms of the arch of the aorta, in which ether has been given without any ill effects occurring, either during the time of administration or afterwards.

Ether increases the force and frequency of the pulse and causes a rise of arterial pressure, and there is no serious impairment of this pressure until after decided

* Chapter on Anæsthetics, Piper's Surgery.
† On Anæsthetics.

embarrassment of respiration.* Dr. Roberts's quotation from the report of the Scientific Grants Committee of the British Medical Association† is evidently intended by the committee to apply to the pulmonary circulation, as it is only in connection with that system that anything is said about the depressing action of ether. The quotation which follows shows what the committee reported as to the effect of ether on the heart. After describing the method of conducting the investigation, the committee say, "It soon became evident that when chloroform is given in this way there is at once a most serious effect on the heart; the right ventricle almost immediately begins to distend, and the heart presently stops, with the right ventricle engorged with blood. The heart has often, in the case of rabbits, virtually come to a stand-still within a minute of the introduction of chloroform by the method described. The contrast was most striking when *ether* was used instead of chloroform. Ether may be given for an indefinite period *without interfering* with the heart."

The report also shows that fifty cubic centimetres of chloroform vapor administered in seventy-five seconds will cause complete stoppage of the pulmonary circulation, and that seven hundred and twenty seconds are required to re-establish it; while five hundred cubic centimetres of ether vapor given in two hundred and seventy seconds require only one hundred and eighty seconds for the restoration of the pulmonary circulation.

The report of the committee of the Royal Medical and Chirurgical Society‡ states that with ether "depressing action on the heart is either very slight or altogether absent."

In 1861, a committee of the Boston Medical Improvement Society, in its report upon the "alleged dangers of ether," stated that "there is no recorded case of death attributed to ether which cannot be explained on some other ground equally as plausible."

Almost all writers on anæsthetics mention the signs of danger during etherization, and state that if these signs are heeded the danger may be averted.

Jonathan Hutchinson§ asserts that it is to the use of complicated inhalers that the occasional ill effects of ether are due. Be this as it may, it is a fact that in many of the cases of reported death from ether, complicated inhalers have been used. Dr. Sawyer‖ declares that ether is as safe as an anæsthetic may be.

The first death reported by Dr. Roberts is that of a woman who was operated upon for fibrous anchylosis of the hip and knee. The woman had been etherized several times before without ill effects.

The autopsy showed that there was very general disease of the heart, although no particular part was very far advanced in disease. Sudden deaths occur every day from just as slight cardiac disease without any apparent exciting cause, while this woman had been greatly frightened not more than two or three minutes before etherization. The signs of cardiac weakness, feeble and rapid pulse, were first observed. The woman was breathing quietly and regularly until between forty and fifty minutes after the alarm was excited.

How can we reconcile this condition with the statements of the English Chloroform and Scientific Grants Committees?

Further, Dr. Roberts says that a "marked feature of this case was that almost every organ presented some noticeable change, although no organ had the characteristic appearance of any distinct disease."

Was this woman in a condition that would enable her to endure the shock of breaking up strong adhesions of the hip? After taking into consideration the condition of the woman before anæsthesia, the fright which she received, and the manner of death, it is but just to conclude that the death was caused, not by *ether*, but by *natural causes*. Particularly is this true since a death under similar circumstances —except that no anæsthetic was used—is reported by Dr. H. H. Smith.¶

The second case reported by Dr. Roberts is that of a man whose thigh was to have been amputated for necrosis of the femur. "There were many large sinuses, discharging large amounts of pus." Twenty grains of chloral hydrate were given to the man before etherization, and before the operation had been commenced collapse occurred and the man died.

Here was a man who was "run down"

* English Chloroform Committee.
† British Medical Journal, vol. ii., 1880.
‡ Transactions, vol. xlvii.
§ British Medical Journal, vol. ii., 1880.

‖ British Medical Journal, vol. ii., 1875.
¶ Proceedings of the Philadelphia County Medical Society, Medical Times, June 4.

by long-continued suppuration,—one by whom any cardiac depression would be badly borne. Therefore, when the well-known uncertainty of the effects of chloral is considered,—especially since the manner of death corresponds so well with that of death from chloral,—is it not very probable that death was caused by the chloral and not by the ether that was administered?

The third case reported by Dr. Roberts was that of a lad, aged nineteen years, with anchylosis of the knee, who was subjected to tenotomy and forcible straightening of the limb. After the operation, the boy rapidly recovered from the effects of the ether, and when he was removed from the operating-room was conscious and rational. Fifteen minutes after he was taken to his room he showed symptoms of asphyxia and congestion of the lungs, and died in one and one-fourth hours.

Here is another discrepancy. The Scientific Grants Committee's Report distinctly states that after complete stoppage of the pulmonary circulation and the consequent production of congestion of the lungs, this circulation is restored in three minutes; and yet in this case we have congestion of the lungs showing itself fifteen minutes after the boy had recovered from the ether. For years the boy had suffered with caries of the spine, which was very likely to have caused organic disease of the kidneys. At the post-mortem the lungs were found to be œdematous. The kidneys were not examined. It is to be regretted that the kidneys were not examined, because, as was said in the editorial comments on Dr. Roberts's paper, œdema of the lungs frequently occurs suddenly in the course of disease of the kidneys, and produces death in the same manner as this boy died. Here, then, is a physiological reason why death could not have been caused by ether, and the suggestion of a probable cause of death. After looking at the cases from this stand-point, can any of the three cases be said to have been a *bona fide* case of "ether death"?

The cases of death from ether which were collated by Dawson* are eighteen in number. Of these, Dawson rejects nine, while Roberts accepts three cases which Dawson rejects, and rejects one which Dawson accepts.

* British Medical Journal, vol. i., 1878.

In the following review of these cases, no notice will be taken of those which are rejected by both Dawson and Roberts, or of those cases in which any anæsthetic save ether was used. The number attached to each case is that which is assigned it by Dawson in the original article.†

Case IV.—Male, æt. 14, of strumous habit. While ether was being administered, and *after* the face had become intensely red, it was announced that the pulse was failing, and the ether was withdrawn and the operation concluded without any attempt to resuscitate the lad. Shortly afterwards the pulse became imperceptible and the boy died. The ether was administered in such a manner as to exclude air entirely.

Bigelow‡ intimates his belief that if proper treatment had been adopted the lad would not have died.

Case VIII.—A patient at the Homœopathic Hospital, New York, was etherized, and during etherization the pulse, which was watched very carefully, failed, and the man's face suddenly became blue.

Ether does not affect the respiratory centres suddenly, and the chances are that had the respirations been observed as carefully as the pulse, the man would not have died.

Case IX.—Male, æt. 74, inhaled one-half pound of ether and commenced coughing; his face became livid. The ether was withdrawn and the operation finished.

Here the charge of negligence will again hold, for no attempt at resuscitation was made.

Case X.—Female, æt. 45, was operated upon for cancer of the uterus. After anæsthesia had been produced, the ether was administered by a female attendant, and when the physicians again noticed the patient's condition she was pulseless and breathless. At the post-mortem the lungs were found gorged with blood.

Is it not possible that an embolus may have been carried from the uterine veins to the pulmonary artery and thus have produced the pulmonary engorgement? Or does the charge of improper administration have any force?

**Case XIII.*—After recovering from ether, the woman died. There were stertorous breathing and coma. The symptoms did not present themselves immediately. At the autopsy, cerebral hemorrhage was found.

If ether had caused the hemorrhage, it would have occurred when the cerebral and cardiac excitement were greatest.

† Cases marked * are rejected by Dawson and accepted by Roberts.

‡ British Medical Journal, vol. ii., 1873.

**Case XIV.*—Male, æt. 69, operated upon for strangulated hernia. Clover's inhaler used, and the man breathed only expired air and ether for some time. He struggled violently, his lips became blue, and the pulse failed. Respiration continued for some time after the pulse became imperceptible. At the post-mortem, the heart and lungs were found diseased.

This death is just the opposite of what "ether death" should be, and is very like death from collapse; and in what cases would death from collapse occur if not in cases of strangulated hernia?

Case XVII.—Male. After recovering from ether the patient was carried through an open court-yard about fifty yards in length. Death occurred in one and one-half hours.

The symptoms and manner of death are very much like those of Dr. Roberts's third case. The lungs were œdematous. Nothing is said as to the condition of the kidneys.

Case XVIII.—Female, æt. 45. Cancer of breast. After a few inspirations the face became turgid, and death ensued fifteen minutes later. At the autopsy, the lungs were found to be filled with cancerous deposits. The ether was administered from a leather cone with two openings in it. Death was from asphyxia, easily produced because of the condition of the lungs and facilitated by the use of an impervious cone.

The report of the case quoted by Dr. Roberts in his summing up shows that twenty inches of intestine were strangulated, that this intestine was becoming gangrenous, and that peritonitis had set in. Was there not sufficient cause for death in this instance? And would not death have followed whether the anæsthetic had been used or not?

In the original report of Mr. Hartley's case* a probable cause of death is given.

As was mentioned by Dr. Roberts, there is an account by Mr. Burton and Dr. Jacobs† of the deaths from ether which have been reported in the journals of Great Britain. The writers state that in almost every case some other cause than the effects of ether can be assigned as the reason for the death. The article states that since 1870 there have been reported one hundred and twenty deaths from chloroform and eleven deaths attributed to ether.

Many of the cases recorded here are reported by Dawson, and the greater number of those not given by him and mentioned by these writers are reviewed in this article.

In Dr. Dandridge's case‡ the patient had suffered for a long time with an abscess of the thigh which opened in the popliteal space. The woman was very anæmic in consequence of the drain on her system, and also from almost constant vomiting. The woman had been etherized several times before, when she was apparently in a much more enfeebled condition. The administration was proceeding very satisfactorily until, suddenly, the breathing stopped and she became pulseless. She was partially revived by appropriate treatment, but respiration gradually failed.

Here, also, because of the time elapsing from the time of inhalation until death occurred, "ether death" is improbable. There is also the possibility in this case of an embolus having been lodged either in the brain or in the lungs. The head of the patient was lowered to prevent anæmia of the brain. One and one-half pints of brandy were given her per rectum and by hypodermic injection. The amount of alcohol was sufficient to produce paralysis of the cerebrum. It is well known that large doses of alcohol decrease the force of the heart by direct action on the heart-muscle, and lessen the frequency by stimulation of the inhibitory apparatus at first, but finally the frequency is increased by paralysis of the inhibitory nerves.

In cases of congestion of the lungs or other diseases which interfere with respiration, we support the patient in a semi-recumbent position. Why, then, should this woman have had her head lowered? According to the report of the case, the danger was first exhibited by the respiratory system. Why should congestion of the lungs caused by ether be treated in a less rational manner?

I have not had access to the other cases quoted by Dr. Roberts.

After looking at the cases from this stand-point, can any one of them be said to be a genuine case of "ether death"?

THE twenty-fifth anniversary of Dr. Rudolf Virchow's appointment as Professor in the University of Berlin is to be celebrated on October 13.

THE degree of LL.D. was conferred by Yale College, at its late commencement, upon Prof. Austin Flint, of New York.

---

* Lancet, vol. ii., 1880.
† British Medical Journal, vol. ii., 1880.
‡ Cincinnati Lancet, October 30, 1880.

ILLUSTRATIONS OF THE USE OF LARGE HYPODERMICS OF MORPHINE AND THE DANGERS ATTENDING THEM.

BY E. T. BLACKWELL, M.D.

HYPODERMIC medication, in furnishing a means of speedy relief from pain, has made the average sufferer impatient of the delay necessary to a correct elucidation of its cause and clamorous for the application of a remedy; the bystanders also, especially in cases of abnormal nervous manifestations, often joining in the demand for instant succor, and bringing a pressure upon the physician that may cause him to hasten and obscure the final diagnosis. If the practitioner is a routinist, he is apt to resort to hypodermic application in cases where great pain might be looked for; but where, from shock or other cause, but little is felt, the unreflective or impulsive man does not appreciate, till too late, that the remedy, when placed within the integument, is to a very considerable extent beyond his control.

The following cases, in which it was necessary to push the administration of morphine to the extreme limits of safety, and in which, though great caution was observed, a perilous condition was developed, are recorded for the benefit of any who may be obliged to use medicines in this prompt and efficient but hazardous way.

Case I.—Mrs. E. A. W., brunette, 30 years of age, commenced to menstruate previous to her twelfth year, the flow being always profuse and attended by very severe headaches and confinement to bed for two or three days. She was subject to sick-headache when exposed to unusual excitement or fatigue. Her mother had a like experience.

Mrs. W.'s second pregnancy occurred in the spring of 1877. Near the end of her term she was taken with excessive tightness of the chest and a feeling of suffocation, for which she was bled, with complete relief. On January 11, 1878, after a rather easy labor of a few hours' duration, she was safely delivered of twins. Notwithstanding the satisfactory conclusion of the process and the exemption from loss of blood, she had a light swoon soon after, but was left comfortable and composed. A general peritonitis succeeded almost immediately, her convalescence from which occurred about February 10.

One day, in the week following, she had a succession of calls, followed by extreme nervousness and a uterine hemorrhage. For this she received a hypodermic injection of morphine, with Hance's extract of ergot. During the month of March each infant in succession had severe pneumonia. From the constant mental and physical strain, she had, on April 13, a headache that seemed overwhelming in its intensity. The acutest distress appeared to be in the superior convolutions of the brain. She clutched her hair desperately, at one time bringing away a handful that was long retained in her grasp. She vomited occasionally, and the nausea was great. A hypodermic of morphine, estimated at a half-grain, was gradually administered, completely relieving the head and checking the vomiting, though the nausea continued for some time.

On May 6, there was a recurrence of the seizure, extraordinary in its violence, compelling resort to the hypodermic of morphia, which was supplemented by chloral and guarana. On the 11th of June, the 21st of July, and the 7th of August there were recurrences, connected with the sickness and death of the infants from cholera infantum. These attacks were treated as before. The rest of the year, her cares being less, there was a respite from these monthly scourgings; but on January 26, 1879, there was an outbreak, which was subdued in the usual way, as was also the case April 6. During the summer months the suffering at the periods was not so extreme, and was alleviated by chloral and inhalations of ether and chloroform, administered by the husband, while the system was strengthened by constant use of syr. ferri bromidi. A thorough trial was made, during the several menstrual periods, of the fluid extract of ergot. In the autumn there is a history of monthly recurrences of the agony in the head and the accustomed resort to the use of morphia. Up to the last of this year, the amount of the medicine inserted at each period did not probably exceed a half-grain, which was administered very gradually and cautiously, the time occupied being from one to two hours. The beginning of the year 1880 was signalized by an outbreak on January 18, to be succeeded by a most terrific one on February 16. Relief was attempted by the inhalation of equal parts of stronger ether and chloroform, but, notwithstanding the pulse was nearly extinguished by their intense action on the heart, the pain abated but little. A hypodermic of morphia was now given, with a few drops of fluid extract of belladonna, which was followed, not long after, by symptoms of opium-poisoning. An additional amount of belladonna was given subcutaneously, and elixir of strychnia and whisky by the mouth, the unfavorable effects passing off in the course of two or three hours. Deeming that the menorrhagia had produced anæmia, the taking of bromide of iron was insisted on during all the intervals. The successive periods were variously passed, sometimes being endured through the inhalation of anæsthetics, or by an occasional dose of morphine by the

mouth. On the 27th of August the headache reached its acme at 9 P.M., when a half-grain of morphine was given beneath the tissues; in the course of an hour another half-grain was given. Leaving her towards eleven o'clock, not fully relieved, her husband resumed the exhibition of the chloroform mixture, which had also been used previous to my visit. While breathing this she became unconscious, a leaden blueness overspreading the face and hands, from imperfect respiration. When five drops of extract of belladonna had been exhibited subcutaneously, the blueness disappeared. A hypodermic of two grains morphia, with five drops belladonna extract, on the 30th of September and 20th of December respectively, closed the year. The new was greeted with a fresh attack, resulting from the fatigue attending the holiday hospitalities. From three to five o'clock P.M. of January 1 she received beneath the cutis two grains morphia and twelve drops extract of belladonna, which were to be supplemented, as required, by five grains chloral and ten minims elixir valerianate of zinc. Hitherto the quantity of morphine exhibited was estimated. I now resolved that I would ascertain the exact amount used by weight. An opportunity occurred on January 24, when she received morphine and belladonna in the amounts and at the intervals here indicated. The salt used was the acetate, an extemporaneous solution being made by the addition of vinegar.

7.10 P.M.—	Morphiæ acetas,	gr. ½; ext. belladon. fl.,	gtt. ij
7.35 P.M.—	do.,	gr. ½; " " "	gtt. ij
7.45 P.M.—	do.,	gr. ½; " " "	gtt. ij
8 P.M.—	do.,	gr. ½; " " "	gtt. ij
8.25 P.M.—	do.,	gr. ½ approx. " "	——
	Amount,	2½ grs.	gtt. viij

The patient at this time was having a flow, attended with pain in the back and occasional small clots; and, as she had missed a menstrual period, it is possible that an impregnated ovum passed away. The pain and clots continuing, on the next day she received medication as follows:

4.30 P.M.—	Morph. acet.	hypodermically,	gr. i
5 P.M.—	"	" "	gr. ½
5.10 P.M.—	"	" "	gr. ½
5.35 P.M.—	"	" "	gr. ½
			gr. 2½;

with 3 grains Hance's extract of ergot.

January 26.—The patient failed to sleep, complaining of pain and itching, from the last of which she often suffers. I determined to test the effect of atropia, giving the officinal solution of the sulphate, as follows:

10.25 A.M.—	Liq. atropiæ sulph., hypodermically	gtt. ij
10.35 A.M.—	Liq. atropiæ sulph., hypodermically	gtt. ij
10.45 A.M.—	Liq. atropiæ sulph., hypodermically	gtt. ij
10.55 A.M.—	Liq. atropiæ sulph., hypodermically	gtt. ij,

equal to one-thirtieth grain.

No result followed, the pupil being unmoved; neither was the pupil contracted to any great degree when most under the influence of the morphine. At the evening visit recourse was again had to morphine.

7.30 P.M.—	Morph. acet. (by weight),		gr. i
7.45 P.M.—	"	" "	gr. i
8.10 P.M.—	"	" "	gr. i
			gr. iii,

as appears by my notes, though my recollection is that there was another injection of one grain.

January 27, 7 P.M.—Mrs. W. has slept scarcely any during the last three days,—an hour, perhaps, on the evening of the 25th. I prescribed for her as follows:

℞ Chloralis hydrati, ℥ij;
Ext. glycyrrhizæ fl., ℥ss;
Aq., ℥iiss.—M.

S.—A teaspoonful to be taken every hour, till relieved.

That night the patient slept reasonably, but on the following night, when the nurse doubled the dose, she became delirious.

Case II.—Mrs. M., aged 42, became pregnant near the close of the year 1879, and was immediately affected with great nausea and vomiting, which were very persistent, extending in varying degrees during the greater part of her term of gestation, reducing greatly her strength and compelling constant confinement in bed. She was seized with spurious pains on August 31, for which, at 7.30 P.M., she received a hypodermic of morphiæ acetas. On September 1 she had recurrence of the pains, and from 6 P.M. to 10 P.M. she received one and a half grains, with eight drops fluid extract of belladonna. September 2, from 4 A.M. to 6 A.M. she received two grains, with belladonna extract. September 3, at 4 A.M., she was taken with genuine labor-pains, the agony of which was tempered by anæsthetics, and the efficiency of which was enhanced by ergot. The babe, weighing twelve pounds, was born, lifeless, at 8 A.M. In the evening she was complaining of pain about the loins, and of nausea and fever, the pulse being 106. From 7 P.M. to 9 P.M. she received a hypodermic of morphine, and was ordered the following medicine:

℞ Potassii citratis, ℥j;
Acid. hydrocyan. dil., ♏xx;
Tinct. opii deodorat., ℥j;
Aq. menth. pip., ℥iij.—M.

S.—A teaspoonful to be taken every two hours. A grain of calomel was also to be taken every two hours till the bowels should respond.

September 4, 8 A.M.—The patient has slept none during the night, the pain in the side remaining unabated. Pulse, 112 to 120.

From 8.30 A.M. to 9.30 A.M. she received

one and one-quarter grains of morphine, with five drops of belladonna extract.

September 5.—The patient has rested fairly, enjoying many short periods of sleep. She has had one free and two or three smaller evacuations of the bowels. She reports having had a "weak spell." Her pulse marks 112, but is easily excited to 120. Calomel withdrawn.

At 7 P.M. she was vomiting greenish water, and the bowels had been several times moved. Ordered—

℞ Sodii bicarb., gr. xxiv;
Ac. hydrocyan. dil., ℥v;
Aq. creasoti, ʒi;
Glycerinæ, ʒiij;
Aq. cinnamomi, ʒiiss.—M.

S.—A teaspoonful every half-hour.

September 6.—The patient rested perhaps for three hours. Pulse 90. Ordered—

℞ Bismuthi subcarb., ʒij;
Aq. creasoti, ʒi;
Glycerinæ, ʒiij;
Tinct. opii, ʒss;
Ext. krameriæ fl., ʒss;
Aq., ʒijss.—M.

S.—A teaspoonful every hour.

During the 7th, 8th, and 9th the patient's condition appeared good, the pulse varying from 85 to 90 per minute. She took moderately of quinidiæ sulph. On the 10th, at my morning visit, she complained of pain and stiffness of the jaws, inability to open the mouth, and difficulty of swallowing,—of trismus, in fact. She was ordered chloroform liniment, the former medicine to be continued with pills of opium. At 11 P.M. I was summoned, the patient suffering agonizing pains at the insertion of the deltoid muscle. In the course of two hours she received subcutaneously one and a half grains of morphine.

September 11, at 10 A.M., her pulse was very quick, reaching 132 per minute whenever she was raised to the sitting posture. Ordered—

℞ Chloral. hydrat.,
Salicin., āā ʒss;
Liq. acidi hydrobromici, ʒvj;
Ext. glycyrrhizæ fl., ʒij;
Aq., ʒij.—M.

S.—A teaspoonful to be taken every three hours.

At 4 P.M. the pain returned in such an agony about the nucha and the lower part of the back that the sufferer demanded instant relief, utterly refusing to allow any investigation of the affected parts. The time occupied in the insertion of the remedy was two hours, the amount of morphine used being estimated at two and a half grains. At 9 P.M. her pulse was very rapid; the respirations also were shallow and quick. Death occurred about 11 P.M.

Case III.—Jesse M., a healthy young man, who had recently left the farm to run a button-hole machine in a clothing-factory, after a few days of malaise and defective appetite, during which he worked extra hours, passing a whole night closely engaged, was taken, at 3 P.M., August 27, with violent convulsions, attended with frothing at the mouth and grinding of the teeth. In the course of three hours, during which he took, by inhalation, two ounces of chloroform and some stronger ether, he had many fits of extraordinary violence.

At 6 P.M. he received subcutaneously one grain acetate of morphia, which quelled the violent manifestations. At 10.30 P.M. a half-grain additional was given. At midnight I was called, the messenger saying that the breathing was peculiar. I found his respiration snoring and only six per minute. Gave a hypodermic of three drops ext. belladonna. In an hour the respiration arose to between seven and eight per minute, after which he rested well till morning. The treatment was continued a few days on general principles, there being no return of the paroxysms.

My experience would lead me to be very cautious in repeating hypodermic injections of morphine after the patient begins to come under its influence, and either to await its full development or to return subsequently, if fear is felt as to its sufficiency, and deepen the effect if then thought necessary.

In the *Medical and Surgical Reporter* for September 11, 1880, is an abstract from the *Practitioner* of June, 1880, of "Cases Illustrative of the Advantages of using Morphia very freely," the relation being such as to convey to the mind of the reader a belief in the safety of enormous doses given hypodermically. Three grains were gradually injected in a case of delirium tremens; two days subsequently two grains were given, without effect; and two days later five grains of acetate of morphia were given, apparently without interval. The outcome was good; and this bright side of success is presented for our admiration, while the darker side of danger remains in shadow. The result is an overweening confidence on the part of the incautious and inexperienced. No one, whatever his skill, can afford to exhibit these heroic doses without bearing constantly in mind the risk he incurs, and the possibility of passing the line of safety and causing the death of the patient,—an accident that has so frequently befallen that a dread of the method exists among the people, leading them to oppose it in many instances in which it seems to be the only available procedure.

A CASE OF POISONING BY ONE OUNCE OF LAUDANUM—USE OF ATROPIA—RECOVERY.

BY S. J. RADCLIFFE, A.M., M.D.,
Washington, D.C.

AT about 9.30 P.M. of May 4 last I was called to see V. T., a young woman about 23 years of age, of fine physique and appearance,—one of the *demi-monde* of the better class,—who I was informed had taken, about half an hour or more previously, a small vialful of laudanum with suicidal intention,—the messenger, as I discovered afterwards, happening to be her lover, with whom she had had, no doubt, some misunderstanding, and who was evidently much agitated.

I found her lying in bed *en déshabille*, somewhat sleepy-looking, indifferent to my entrance, careless to answer questions, apathetic as to her condition. She admitted she had taken the vial of laudanum (pointing to an empty ounce vial on the wash-stand near), and with the intention of taking her life. She was angry that I came in, and wished that I would let her alone and let her die, as she did not want to live. She would give no reason for her rash act further than is intimated above.

The vial contained but a few drops of the liquid, which upon examination proved beyond doubt to be tincture of opium. She had taken the label off, she said, to avoid detection as to where or when it was bought or for what purpose. I traced the purchase of it, however, to a neighboring drug-store, and found the only difference in her description was—as recorded on the druggist's poison-book—that she had given Fourteenth for Thirteenth Street, and had changed one figure in the number of the house, which was done of course intentionally and evidently with the purpose of deceiving.

At first she resisted stubbornly all efforts made to examine her; but, finding I was positive about it, she submitted and allowed me to proceed, until I was informed of her real condition.

I found her pulse full and strong, beating about 64 per minute; breathing slow, easy, and without special note; was disposed to close her eyes and sleep; pupils but slightly affected; and altogether she was in a condition denoting that peculiar quietude and *abandon* preceding narcotism.

As I was satisfied she had taken the laudanum, I told her she must not lie there and die without an effort being made to save her, and I took her by the arm and pulled her out of bed and placed her on a chair near by.

I had in my pocket forty grains of sulphate of zinc in two powders, one of which I administered at once and the other in ten minutes after, without any effect. I then had warm water and mustard brought, and gave her large draughts of mustard-water, and induced her to tickle her throat and thrust her finger down as far as she could, when she threw up a mouthful or two of fluid smelling strongly of opium.

As this opium odor indicated that it had not all been absorbed, I then sent for one drachm more of sulphate of zinc, in three parts, and administered it, one powder after another, at intervals of ten minutes, without producing free emesis. Only a little fluid was vomited, and then only as it was assisted by warm mustard-water.

Her condition was now becoming alarming, and it was with great difficulty we could keep her awake or on her feet. If she sat down on a chair, her head would fall over on her breast or on her shoulder, and she would breathe heavily and seem oblivious to everything around; and if we attempted to walk her, she would stumble and fall, and had to be held up by main force. She was not conscious enough to control her actions or movements in the least, and we had to abandon walking for a while.

Fortunately, I had with me a solution of sulphate of atropia (one grain to the ounce of water), which I had brought with me from my office to use in case of emergency. I injected now ten drops hypodermically, representing $\frac{1}{48}$ of a grain of the atropia, and returned home for my stomach-pump, hoping still to make it of use in relieving the stomach of any remains of the drug, leaving instructions to keep her awake if it could be, and up and moving about as much as possible; to continue dousing her face and head with cold water, flapping the towel in her face and slapping her cheeks if necessary.

It was now nearly or quite twelve o'clock,—nearly two hours and a half since I first saw her; and her condition seemed desperate indeed. She had not responded to treatment so far; absorption had gone on so rapidly that she was pretty well under

the influence of the narcotic,—indeed, might be said to be completely narcotized. The insensibility of the stomach was such that it could not be acted on sufficiently; it had been relieved of only a part of its contents, and I had but little hopes of doing much more, except what might be expected from the atropia. With a view of putting this remedy to a proper test, I now gave her another hypodermic injection of sulphate of atropia ($\frac{1}{48}$ of a grain), and with the assistance of two persons in the room I introduced without trouble the stomach-tube, and after a few motions of the piston of the pump, in order to introduce clear water, as if the atropia was beginning to show its action, spasmodic contraction of the stomach took place, and, forcing out the tube, quite half a gallon of fluid with but little odor of opium followed; and the emesis continued in two or three straining efforts, emptying the stomach of the greater part of its contents. I introduced the stomach-tube again, and pretty thoroughly washed out the stomach, until the washings became unmixed and nearly clear and without odor. This had the effect of arousing her somewhat, and she yielded to further treatment without objection; so in a little while—say towards one o'cloçk A.M.—she began to show signs of consciousness and replied to some questions asked her. Her pulse was weaker, a little thready and irregular and quicker, and respiration had also quickened, and the surface-temperature had much diminished. If she attempted to open her eyes, the light would dazzle them, so that she would quickly close them to shut out the glare, or would look at an object sideways or close one eye and look at it at different angles, and seemed more like one under the influence of atropia with dilated pupils than like a person under the influence of opium. She could scarcely look at the gaslight, though her pupils were not much dilated above a normal condition. We walked her up and down the room and watched her with increasing interest, and the first good evidence of returning consciousness that she exhibited was that she asked repeatedly what made her itch all over so. This itching, she said, was most intolerable, and seemed to harass her beyond measure, and she asked to be rubbed and scratched with a metallic brush she picked up, which she used freely herself about her arms and shoulders. It seemed to annoy her exceedingly; and the more conscious she became, the more distressing it seemed to be to her. There was quite an efflorescence over most of the body, quite perceptible especially over the neck and arms, and from this condition the unfavorable symptoms gradually subsided and the progress of the case was entirely satisfactory. This efflorescence appeared to bring warmth to the skin and brilliancy to the complexion and heightened the activity of the patient, as she moved with steadier gait and conversed with more vivacity, though still drowsy to a great degree. I stayed with her until 1.30 A.M., when I considered her out of danger, and left instructions to watch her for at least an hour before allowing her to lie down, and directed that some one should watch her until daylight.

I saw her again at 9 A.M., and found her quite recovered and in fair condition under the circumstances. Some nausea remained, and some fulness of the head, for which I directed a small cup or two of strong coffee to be taken during the day. At 9 P.M. her condition was still good and required no further treatment.

Note.—With a view to contribute something to the literature of the antagonism between opium and atropia, I report the above case. It is true the quantity taken was not so large as has been reported by others, yet the toxic effect was such as to cause great anxiety as to the results, and the treatment proved that its degree was not overestimated.

There is no rule yet observed to gauge the quantity of an agent necessary to produce toxic action or make a lethal dose, as what might prove a lethal dose to one might not prove such to others. It seems to depend entirely upon idiosyncrasy or susceptibility.

Bartholow says it is a very difficult matter to determine the amount of poison necessary to constitute a lethal dose, for comparatively small doses of opium and laudanum have sometimes proved fatal, according to Taylor and other reliable authorities; and, on the other hand, no less than eight ounces of laudanum have been taken without injury;* and therefore it is nothing against this case that the amount of laudanum taken was only one ounce. The condition of the pupils,

* Cartwright Lectures.

the pulse, the respiration, the impairment of muscular power, the stupor, all pointed to the toxic action of the drug.

The case was seen somewhere within an hour after the laudanum was taken, as reported to me, before, probably, all of it was absorbed from the stomach,—time, however, sufficient for it to more than begin its action upon the heart and nervous centres; but the treatment was begun actively and was kept up promptly without loss of time until the patient was out of danger.

From the continuously active treatment employed and persevered in throughout, at no time was the patient profoundly narcotized, nor did marked coma or stertor decidedly supervene, though there was deep stupor, and grave apprehensions existed as to its tendency towards coma; yet it might and probably would have been the case if it had been left undisturbed and without treatment for any length of time longer, for absorption was continuous, and in about two hours, in spite of treatment, the patient was in great danger, and was aroused only with the greatest difficulty.

While the case may not, however, be considered a typical one of opium-poisoning, when the case was seen first *in extremis*, and in which atropia was used only and as a last resort, upon whose perfect and complete antagonism the proof of its real therapeutic action could be based, yet it was one in a marked degree offering all the symptoms of the gradual but continued action of the drug; and its favorable issue seemed so much to be the result of a right line of treatment that the belief is warranted that atropia aided very greatly, or was a prominent factor, in bringing about that result, although a source of fallacy, as Bartholow says, in estimating the validity of the antagonism in these cases is the fact that in the greater number of them various approved agents, such as emetics, the stomach-pump, faradization, ambulation, flagellation, etc., were made use of in addition to the antagonist, most of which were used in this case.

The quantity of atropia used was about $\frac{1}{24}$ of a grain in all, and the antagonism seemed to be well balanced and sufficient. The slight efflorescence and the state of the pupils when the patient became conscious indicated that there was rather a preponderance of the antagonist; but the more or less stupid condition in which she remained for several hours after, and the want of more manifest symptoms, refuted this idea. Bartholow says, "In some actual trials I have found that $\frac{1}{20}$ of a grain of atropia is about equal to one grain of morphia in toxic power," which is above the quantity I employed in this case,—nearly double; and Phillips observes that in certain patients poisoned by opium an intense irritation of the skin, with intolerable itching, and sometimes even the production of a sudaminous rash, has been observed,—these effects resulting both from the external and from the internal use of opium.*

1211 F St., N.W., Washington, D.C.

A CASE OF ILIAC ABSCESS SIMULATING COXALGIA.

BY CHARLES A. CURRIE, M.D.,
Resident Surgeon to the Episcopal Hospital.

JOSEPH G., aged 9, was admitted into the hospital on May 5, 1881, with the following history.

Two weeks before admission he had a fall from a pile of lumber, dragging after him a board, which fell across his abdomen, striking with most force on his left side. He was able to rise and go home, not mentioning the circumstance to his parents. The following week he complained of a slight pain in his left side in the region of the iliac fossa, which was increased by any effort at walking, causing him to limp with the left leg. He was shortly afterwards brought to the hospital for what his parents supposed to be hip-joint disease, and carefully examined by Dr. Wm. S. Forbes, the attending surgeon, who found him suffering from the following symptoms. When lying on his back, the left thigh became strongly flexed on the abdomen, which, being straightened as far as possible, caused a very marked anterior curvature of the lumbar vertebræ; the foot was everted; pressure over the site of the injury caused a good deal of pain, but no external evidences of the injury were noticeable. From this time he evinced considerable febrile disturbance, the temperature ranging from 99° in the morning to 103° and 104° in the evening. There was no posterior angular projection of the vertebræ, nor tenderness over them,

* Materia Medica and Therapeutics.

as would exist in a case of Pott's disease. The affection was at this time thought by Dr. Forbes to be intra-abdominal.

On the morning of June 3, while dressing the case, I noticed a slight redness about an inch above Poupart's ligament and towards its outer third, which was very tender to the touch, and to which I drew the attention of Dr. C. T. Hunter, the visiting surgeon at that time. The next morning it showed distinct signs of fluctuation and the general characteristics of an acute abscess, which the doctor then opened, and immediately there welled out a large quantity of healthy pus: it contained no necrosed bone. On passing the finger into the opening thus made, it went directly into the cavity of the abscess, which was found to rest on the venter of the ilium. It was possible to almost completely encircle the psoas muscle; and further examination showed that the abscess had no communication with the sheath of that muscle. A drainage-tube was then inserted and the abscess poulticed. The temperature fell almost to normal, and the lad's general condition markedly improved. A week later the tube was withdrawn and the edges of the sinus allowed to granulate, which began to close up; and on July 8 he was discharged recovered.

The case was peculiar on account of its presenting symptoms similar to those of coxalgia,—viz., the deformity consisted in the thigh being flexed on the abdomen, the leg on the thigh, and the foot being everted. When standing on his feet, the weight of the body was borne entirely by the sound limb, and the fold of the nates was entirely obliterated on the affected side. Opposed to these symptoms were pain confined to the iliac region almost entirely; no tenderness on pressure, either over the anterior face of the hip-joint or between the great trochanter and the tuberosity of the ischium. Another point which militated against its being a case of coxalgia was the fact that the three points—viz., the tuberosity of the ischium, great trochanter, and the anterior superior spinous process of the ilium—were all in perfect line. Psoas abscess was ruled out from there being no history of disease of the vertebræ, no tenderness in the lumbar region, and no curvature; so that it proved to be simply a case of abscess of the venter of the ilium due to a traumatic cause, which in time recovered perfectly.

NOTES OF HOSPITAL PRACTICE.

UNIVERSITY HOSPITAL.

CLINICAL SERVICE OF JOHN ASHHURST, JR., M.D., PROFESSOR OF CLINICAL SURGERY IN THE UNIVERSITY OF PENNSYLVANIA.

Reported by Guy Hinsdale, M.D., May 14, 1881.

HYDROCELE.

THIS man has the history of a tumor in the scrotum, of long standing. It has been tapped six times, and he is now anxious for radical treatment. For this I prefer the injection of the pure tincture of iodine, which produces a certain amount of irritation of the sac,—enough to prevent a reproduction of the fluid.

Some surgeons suppose that to prevent the effusion and effect a radical cure it is necessary to produce adhesion of the opposing surfaces of the sac. Others, including Mr. Erichsen, believe, on the contrary, that after this mode of treatment adhesion does not occur. My own opinion is that a cure may be effected in either way; while adhesion does undoubtedly occur in some cases, it is by no means invariable. In some instances no adhesions have been found on dissection, and yet the hydrocele had been cured. There must have been some change in the tunica vaginalis itself.

The older pathologists would have said that, in a hydrocele, the true balance between the exhalants and the absorbents was destroyed,—that, in such a case, exhalation was greater than absorption. Their treatment would have been to endeavor to restore the proper balance.

Observe the shape of the tumor. It is pyriform,—larger above than below. This sac is not so tense as we sometimes see.

It is important to make the diagnosis from hernia. The neck of a hernia would pass up within the inguinal canal, but, as you see, this tumor can be entirely isolated in the scrotum. Viewed by transmitted light, hernia would be opaque; the hydrocele, translucent.

Before injecting the iodine we will endeavor to empty the sac as completely as possible. Grasping the hydrocele with my left hand, so as to make the skin tense, and knowing that the testicle is at the back part, avoiding the veins, I make a quick thrust with the trocar and canula. The instrument should at first be pushed directly backwards, and then the handle depressed, so as to avoid wounding the tes-

ticle. On withdrawing the trocar a clear liquid flows out.

The fluid of a hydrocele may coagulate spontaneously. I have seen one or two such instances. It is always highly albuminous. The spontaneous coagulability is, I believe, only met with at second or later tappings, and is probably the result of previous inflammatory action.

When the sac is completely emptied, inject pure tincture of iodine, one to three drachms, according to the size of the sac. I will use three drachms here. The iodine is now injected, and as I withdraw the canula I guard the opening so as to prevent the escape of the fluid from the sac, and allow it to remain in.

The former plan was to use a large quantity of a diluted tincture of iodine or a solution of iodine and iodide of potassium, and to allow the fluid to flow out again through the canula before the latter was withdrawn.

Prof. Syme's plan, which I employ, was to use a small quantity (f℥j–iij) of the pure tincture of iodine and allow it to remain in the sac.

By a little manipulation we bring the fluid in contact with all parts. In a day or two the swelling returns: in fact, it becomes almost as large as before the operation; but it then gradually subsides until the cure is completed.

Convalescence is hastened by strapping the testicle as we would in orchitis. The patient should be confined to his bed, or at least a lounge, for two or three days. Strapping alone has been used to effect a radical cure after drawing off the liquid.

Another method is that of introducing a seton. Sir James Simpson used silver wire for this purpose; but the silver does not excite a sufficient amount of inflammation. The disadvantage of the silk thread, on the other hand, is that suppuration is apt to follow.

The success of the treatment by injection is well established. Prof. Syme declared that he had never met with a failure. I have myself, however, sometimes had to repeat the operation.

NÆVOID SARCOMA OF THE LEG.

This patient presents a tumor upon the inner side of the leg just above the ankle. She has had from birth a small discolored spot on the leg,—a nævoid condition of the skin. Within a short time this growth, which has been rapidly enlarging, has begun to ulcerate, slough, and bleed. It is, I believe, a sarcoma associated with a nævoid growth. It was a nævus first,—a teleangiectasis,—followed by the development of sarcomatous tissue around and beneath. It is evidently not a pure nævus, and, on the other hand, we rarely have a pure sarcoma bleed so profusely as this has done.

There may be some difficulty in closing the wound, as the skin is pretty widely involved. The edges of the growth are indurated, red, and infiltrated. When sarcoma affects the soft tissues it is often an infiltrating disease, but not so markedly as carcinoma. We will close the wound as well as possible with hare-lip pins and press the parts into apposition. The central portion of the wound may have to heal by granulation. The operation will present no difficulty, and, I think, will promise a good result. The growth is freely movable and does not involve either bone or tendon, so that there will be no risk of impairing the usefulness of the limb.

You observe I make the lower incision first, going up in the sound skin above, and I now separate the tumor by tearing, not by cutting. The vascular character of the disease is shown by the very free bleeding as the parts are divided, the hemorrhage, however, ceasing as soon as the growth is removed. A simple angeioma would show a congeries of vessels with hardly any other tissue; but portions of this growth are, as you observe, quite dense and firm.

We will paint this wound with a weak solution of the chloride of zinc (gr. xv–f℥j), not strong enough to produce sloughing. The use of this substance was strongly praised by the late Mr. De Morgan after all operations. He used stronger solutions,—twenty, thirty, and even forty grains to the fluidounce.

We here use four pins, the parts being moulded into position, and, though we shall not get primary union, yet, when the pins are taken out, there will be less surface to heal by granulation. I place an interrupted stitch at each end, and the wound is supported by strips of adhesive plaster placed between the pins and in a spiral direction to prevent the possibility of exerting undue circular compression. I cut off the points of the pins. Over this we place some oiled lint, and, as we will

not disturb the dressing for forty-eight hours, we will cover this with oiled silk; waxed paper has hardly stability enough to last so long a time. Now place a bunch of oakum over the side of the leg, as a pad, and apply a roller from the foot nearly to the knee.

SEBACEOUS CYST OF THE FACE.

This man has a tumor just below the right eye. Its nature seems to be cystic. The skin is adherent from the result of irritation and inflammatory action. It is rather hard to distinguish between a cyst with very hard, firm walls and a fibrous tumor which is not cystic.

We hasten anæsthesia by compressing the chest as the patient breathes out. By doing so we expel some of the residual air from the patient's lungs and compel him to breathe more of the anæsthetic vapor. In giving ether, watch the color of the patient and the respirations; if you use chloroform you must also watch the pulse. There is no danger in giving ether while the respiration is full and the color good. The patient may, however, be endangered from fluids and vomited food accumulating in the back part of the mouth and occluding the air-passages.

The incision is made in a curved direction, to make the cicatrix as little apparent as possible. There is no suspicion of malignant disease, and it is not necessary to remove any skin; the cutaneous adhesion is simply due to inflammatory action. The contents are atheromatous and sebaceous matter.

These growths are classified by Paget as cutaneous, proliferous cysts. The cyst-wall becomes thickened by successive layers of epidermis which are pushed inward, forming concentric laminæ. If any portion of the wall should remain after the operation, there would be a chance that the cyst would return.

When we loosen the adherent skin from the surface of the cyst, we can often turn it out with the handle of the knife. The most difficult cases to deal with are those whose seat is near the external angle of the eye, where they are always closely adherent.

The wound is closed by silver sutures, and the parts further supported with strips of gauze painted with collodion, so that, as far as possible, union by first intention may be secured. The wound is then covered with lint spread with zinc ointment and strips of adhesive plaster.

TRANSLATIONS.

APHTHOUS VULVITIS AND GANGRENE IN YOUNG CHILDREN.—Prof. Parrot (*Revue de Médecine*, 1881, p. 177) says that this form of disease is not necessarily confined to the vulva, but may also appear about the perineum, around the anus, in the genito-crural folds, and in the groins. It is by far the most frequently met with in the vulva, however.

The aspect of the affection varies according to its stage. At the beginning it consists of small hemispherical patches, whitish or grayish-white in color and somewhat elevated even when excavated at the centre. Their diameter varies from one to three or four millimetres. They are formed in the same way as aphthæ of the mouth, and show little or no colored areola. In some cases the epidermis is destroyed and the vesicles rest upon a red and moist surface. The number of the lesions is variable. Sometimes there are only two or three; occasionally they are confluent; but commonly from six to twelve are encountered in a group or isolated.

Such is the first stage of the eruption; but after the lesions have existed for two or three days the disease commonly assumes a somewhat different aspect. In addition to the lesions above described, roundish, cup-shaped ulcers may be descried here and there, with grayish or yellowish base surrounded by a red areola and very often attended by pruritus, which may show itself among the first symptoms and sometimes assumes marked proportions, causing constant rubbing on the part of the little patients. Energetic means must be taken in order to prevent such scratching as shall result in wounds of the parts about the ulcers. These ulcers may be quite extensive—even three square centimetres (an inch or more)—in area.

This ulcerative stage is that in which the affection is usually encountered. Whether the affection will recover spontaneously is questionable. Perhaps it might in healthy children who are only slightly attacked. Parrot, however, treats all his cases from the beginning. When the treatment acts successfully, the discharge and tumefaction

soon diminish, the borders of the lesions sink, and by the end of twenty-four hours the lesions are level with the skin; they grow smaller and smaller, and finally disappear without leaving any mark or cicatrix.

When the case is improperly treated, or when left without treatment, the ulcerative process goes on, and gangrene may result.

Gangrene is not, properly speaking, a complication of aphthous vulvitis, but is rather one of the forms of this disease which may show itself under circumstances as yet imperfectly. When gangrene is about to supervene, the ulcers are seen to become covered with grayish-brown or blackish patches; the adjacent parts become livid, swollen and indurated, and painful. When sphacelus does occur, it proceeds with great rapidity, preceded by the redness and tumefaction of the parts about to be attacked. In some cases it seems as if nothing could arrest the disorganizing invasion of the disease. Parrot has seen not only the vulva and labia destroyed, but, in part, the perineum, anus, rectum, and the skin about the thighs in the neighborhood, and the coccyx. All the mortified parts are black as if stained with ink, and give out a fetid odor. When the patients survive, the eschars, which are always moist, are detached in large pieces, leaving such considerable lacunæ of tissue that it seems scarcely possible they can be filled up. However, the reparative action is often as active as the destructive action which had preceded it, and the loss may be entirely made up.

Constitutional disturbance does not generally show itself except in the gangrenous variety, and this latter, though usually consecutive to aphthous ulceration, sometimes occurs independently of it.

The ordinary variety of aphthous vulvitis follows a different course according to the seat of the lesions. Those about the anus are apt to be the slowest in healing, and no case should be considered cured until the folds of the anus up into the rectum are carefully examined. It is a curious fact that the inguinal and other neighboring glands are not enlarged.

The etiology of aphthous vulvitis is one of the most interesting points in the study of this disease. As to age, thirty-three out of fifty-six patients were between two and four years old. As to sex, Parrot remarks that he has met with one case of balano-posthitis in a little boy. Measles occurred in thirty-nine cases, showing a very strong causative connection between this fever and the aphthous ulceration. It would be going too far, however, to consider this relationship as constant. Prof. Parrot found the aphthous inflammation in no fewer than sixteen cases where there was no pyrexia. Whooping-cough, varicella, erysipelas, pneumonia, and diphtheria have each been noted in connection with the affection under consideration, but it is questionable how far they may have any specific causative influence.

The treatment of aphthous vulvitis is a matter of much moment. At first Parrot used to employ the usual remedies in vogue, — topical emollients, cataplasms, tonic, detersive, and absorbent powders, as charcoal and quinine, aromatic wine, chlorate of potassium,—all without avail. At present he is much more successful, thanks to a single topical application,—iodoform. As soon as the affection has developed, a fine layer of iodoform powder is applied to the affected parts on a bit of cotton, and the opposing sides are kept apart by means of patent lint. This application is renewed every twenty-four hours until a cure is attained, which is not very long. The anus does not yield so easily to treatment as the vulva, but it does heal after some weeks, and these masses of sphacelus formerly observed are no longer seen.

THE CHARACTERISTICS OF CICATRICES. —Prof. Parrot (*Le Progrès Médical*, June 11, 1881), in a lecture on the traces of hereditary syphilis in infants, describes the various scars left by eruptions of different kinds, as follows.

The cicatrices of variola are scattered over the general surface, but occur chiefly upon the face. This topography, as well as their irregularity, distinguishes them from the scars of syphilis. The cicatrices of varicella, when present, are chiefly found upon the face; they are small, and do not show a pigmentary zone at any time. Impetigo affects chiefly the scalp, and after cure leaves little or no mark. The same may be said of pemphigus, scabies, and ecthyma. Syphilitic gummata are usually situated upon the limbs; they result in large, deep ulcers followed by irregular cicatrices often adherent to the adjacent parts. The scars of burns are easily distinguished; they are large, of irregular

contour, pearly-bluish in color, often covered with ridges, and without any specific location. They are often seen side by side with syphilitic cicatrices, but there is no difficulty in distinguishing them. The scars left by croton oil are punctate, more uniform than those of syphilis, and are usually found grouped on the abdomen or some particular part of the thorax.

The scars of syphilis as found in children are circular in outline, with a regular contour, though this may not be very sharply defined. Depending upon the time they have lasted and other circumstances which usually escape us, they are slightly raised above the general surface of the skin, or more frequently are depressed, perhaps to the depth of half a millimetre. Their surface is often smooth; at other times it is a little irregular, with small depressions. No ridges or bridles are ever seen. The color of the lesions is a matter of great interest; it varies with their age. Usually it is at first uniform and of a violaceous tint, but soon it changes to three distinct shades,—in the centre a whitish disk which grows whiter every day, then a violaceous zone, and at the extreme periphery a second band of brownish red, less sharply defined than the preceding. Little by little the red or violaceous coloration observed at first is effaced, while the white becomes more distinct and the brown areola darker. The latter is much more marked in brunettes. In blondes it is sometimes almost invisible. It persists a long time, but disappears finally, and cannot usually be detected after the sixth year. The cicatrices also gradually disappear, and after adolescence can often only be discovered by the aid of a lens.

A Contribution to the Histology of Keloid.—Schwimmer (*Cbl. f. Chir.*, 1881, p. 339; from *Vierteljahrschr. f. Derm. u. Syph.*) saw, in one case of a woman 35 years of age, one hundred and five spontaneous keloid tumors, varying in size from bean- to thumb-size, and mostly seated upon the right breast and right side of the back. The tumors were firm, slightly movable, mostly covered with normal skin; here and there one was shiny red and showed numerous small vessels. Some were roundish; others showed processes running into the neighboring skin. The affection had developed slowly during six years, without giving rise to subjective symptoms. No cause for the appearance of the tumors could be ascertained. On extirpation of a tumor, another one formed in its place.

A second case occurred in a healthy girl of 17. The appearances were the same as above, the seat of the tumors being in the right half of the thorax. Some tumors had coalesced and looked like manifold-lobed bladders. On the trunk scar-like white patches were found strewn. The largest tumor having been extirpated and its seat cauterized, a healthy scar was still existent five months later, around the borders of which, however, could be seen a slight, suspicious elevation.

Microscopic examination showed atrophy of the epidermis, the formation of peculiar vesicles and nuclei, disappearance of the papillæ, atrophy of the hair-follicles and sebaceous glands. The tumors were found to begin directly under the epidermis, and to consist of thick and thin fibres running parallel to the surface. The tissue was richer in cells than fibrous tissue, and showed numerous endothelial cells from obliterated vessels. Vessels were rarely present. The sclerotic connective-tissue bundles appeared to start from them and run crosswise through the tumor.

The appearances thus presented are different from those noted by Langhans and Kaposi, from the fact that atrophy of the epidermis was present and that the tumor was not sharply defined from the normal tissues in which it lay. It was not, however, a cicatricial keloid, since the tumors arose spontaneously and the arrangement of the fibres was different.

Tincture of Winter-Green as an Antiseptic.—Dr. Gosselin (*Arch. Gén. de Méd.*; from *Bull. Gén. de Thérap.*, 1881, vol. i. p. 335) uses two solutions,—No. 1 containing 5 grammes of oil of gaultheria; No. 2 containing 2.5 grammes of the oil to 100 grammes of alcohol and 50 grammes of water. These solutions are antiseptic and have been used with success in dressing wounds.

A New Febrifuge.—M. de Vry (*Revue de Thérapeutique*, 1881, p. 286) describes a new febrifuge,—borate of quinoidine. Among other advantages, the new remedy is said to cost only one-tenth as much as sulphate of quinia. It is somewhat less active, however, than the latter well-known medicine, doses of double the weight being required to produce the same effect.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, SEPTEMBER 10, 1881.

CORRESPONDENCE.

LONDON LETTER.

THE great International Medical Congress has come and gone, and a monster gathering it has been,—one that will be memorable for long,—representatives of medicine from far and wide. France sent Charcot, Bouchut, Léon Labbé, Guéneau de Mussy, and others; Germany, Virchow, Langenbach, Liebreich, Volkmann, Busch, and a host more of well-known names; Braun, Kaposi, and a few more came to represent Austro-Hungary; Italy sent Bacelli, Tommasi, Casselli, and other illustrious representatives of medicine; Donders and Stokvis head the list of those who came from Holland; Reverdin brought some colleagues from Switzerland; Russia sent a contingent with the most wonderful names; while other countries, even to the Argentine Republic, were represented. The United States of America were well represented by Fordyce Barker, Austin Flint, Marion Sims, Lewis Sayre, G. M. Lefferts, Paul Mundé; by Bigelow, Otis, H. C. Wood, Minis Hays, Billings, D. W. Yandall, R. Battey, Davis, of Chicago, and a legion of others whose names are too numerous for mention. The venerable and sombre College of Physicians looked quite gay with the awning on each side of the entrance,—like an old dame in a clean apron. The informal reception was held on Tuesday afternoon, when the College was crowded by faces and figures unwonted and unfamiliar to it. Some new pictures were mustered to smarten up the old walls. On Wednesday morning the first meeting was held in St. James's Hall, which was completely filled. Royalty was present in the form of the Prince of Wales and his brother-in-law the Crown Prince of Germany. Sir William Jenner opened the proceedings, speaking somewhat nervously, interrupted by repeated bursts of applause. William MacCormac, the Honorary Secretary-General, then read a lengthy report, which was listened to somewhat impatiently. He told of the labors of the officials, the generosity of certain bodies allowing their halls to be utilized for sections, the myriads of circulars issued,—indeed, the Atlas-like performance which had been achieved. Letters in their native languages had been addressed to such foreign potentates as the Emperors of Russia and Japan and others, who had graciously acknowledged their receipt. The names of the commissioners from the various foreign countries were then formally read. He concluded by announcing that a commemorative medal had been struck, in the preparation of which some of our first artists had been engaged, so that "no effort had been spared to render the meeting a success." This tedious matter being completed, Sir James Risdon Bennett, as Chairman of the Executive Committee, then spoke, bursting into French, to the surprise of many, giving all a hearty welcome. The Prince of Wales, who is a very happy speaker, then spoke a few sentences which called forth repeated applause, and declared the Congress open. After this, Sir James Paget delivered an address in his wonted mellifluous language, in which he alluded to the advantages which accrued to all from such gatherings, with their interchange of thought; pointed out how an intellectual advance in one direction was usually accompanied by almost synchronous progress in others, instancing how the researches into minute organisms apparently destitute of any practical value had led to some most important doctrines in organic chemistry,—had brought about a most beneficial change in practical surgery, and promised to do as much for medicine; they concerned the highest interests of agriculture, while their influence probably did not rest here, but had promise in the future. It was all spoken in the most natural manner, yet it is asserted that it was a great mnemonic feat, as it was all already in print and was committed to memory word for word. If this is so, it only makes it all the more remarkable as a performance of no ordinary character.

The first meeting was a complete success. At 2 P.M. the Sections commenced work in earnest. The Anatomy Section was presided over by Prof. Flower, F.R.S., supported by Macalister, of Dublin, and Turner, of Edinburgh. Physiology was presided over by Michael Foster, F.R.S., the illustrious Cambridge professor and well-known author of the Hand-Book, with Pavy, F.R.S., Rutherford, F.R.S., of Edinburgh, and Purser, of Dublin, to assist him. Pathology found S. Wilks, F.R.S., worthily filling the chair, with Sayer Bristowe, F.R.S., Jonathan Hutchinson, and Burdon Sanderson, F.R.S., as Vice-Presidents. In Medicine, Sir William Gull, F.R.S., presided, supported by Prof. Gairdner, George Johnson, F.R.S., R. Quain, F.R.S., and William Roberts, F.R.S. Surgery found Erichsen in the chair, with E. H. Bennett, of Dublin, Humphrey, F.R.S., of Cambridge, and Savory, F.R.S., supporting him. In Obstetric Medicine, McClintock, of Dublin, was in the chair, with Barnes, Braxton Hicks, F.R.S., Matthews Duncan, and Priestley as Vice-Presidents. Diseases of Children was presided over by West, aided by Dr. Gee and Timothy Holmes. In the Section devoted to Mental Diseases, Lockhart Robertson was in the chair, supported by Crichton Browne and Maudsley. The ninth Section embraced Ophthalmology,

with Bowman in the chair, and Critchett, Henry Power, Argyl Robertson, and Swanzy as Vice-Presidents. Diseases of the Ear found Dalby presiding, with Cassells, of Glasgow, and Fitzgerald, of Dublin, to support him. The eleventh was devoted to Diseases of the Skin, where Erasmus Wilson presided, with Cheadle, of St. Mary's Hospital, and Liveing to assist. Diseases of the Teeth had Edwin Saunders in the chair, with Tomes, F.R.S., and Spence Bate, F.R.S., as Vice-Presidents. The thirteenth was State Medicine, presided over by John Simon, having for Vice-Presidents George Buchanan, De Chaumont, Norman Chevers, Douglas Maclagan, and Netten Radcliffe. Military Surgery and Medicine had as President Prof. Longmore, with Sir William Muir, Dr. J. W. Reid, and Sir Joseph Fayrer, K.C.S.I. and F.R.S., as Vice-Presidents. Last, but not least, Materia Medica and Pharmacology brought up the rear, with Prof. Fraser, of Edinburgh, in the chair, with Lauder Brunton, F.R.S., Rawdon Macnamara, and Sidney Ringer, as Vice-Presidents.

It would be invidious to attempt to contrast one Section with another: there was plenty of work for all. Representative men were found in all Sections. I have the honor to conclude the big volume of over seven hundred pages, containing abstracts of the papers to be read in the different Sections; and when my paper was read, Lauder Brunton, H. C. Wood, and Sidney Ringer were there, the two first taking part in the discussion on "Strychnia as an Expectorant;" so that personally I can have no grounds for grumbling: and I believe others regarded themselves as equally fortunate. In each Section the President gave an introductory address, and Prof. Fraser told how the recent Anti-Vivisection Act was carried out practically. He had been refused a license to test the properties of a poison used by the natives of Borneo on their arrows, by the subcutaneous injection of the poison to rabbits. Scientific research in England is evidently arrested for a time when even this may not be done by the successor of Sir Robert Christison in the chair of Materia Medica in the University of Edinburgh. The work accomplished everywhere told of zeal and enthusiasm, of an honest appreciation of the work of all, the speaker and the listener alike and in turn, each as ready to act as to learn, to listen as well as to be listened to. All, however, "knocked off," in workman's phraseology, early, to listen to Rudolph Virchow give an address on "The Value of Pathological Experiments." It appears that a new society for the protection of animals has been established in Leipsic, which is agitating for a law to punish vivisection by imprisonment and deprivation of civil rights. He held that if the advocates of vivisection cannot make good their claim before the world the cause must be looked on as a lost one. He pointed out how dissection of the human body fought its way against tremendous opposition. The discovery of "cells" was then given as an illustration of the aid science can give to medicine. He spoke warmly on behalf of the study of symptoms, now so much neglected. "Have symptoms no more any importance for the physician? Can a diagnosis be made without a knowledge of symptoms?" he asks, with a ring of audible scorn. It is the "why" of symptoms which gives them their value to the scientific physician. The progress of ophthalmology was used as an illustration. "The principle of modern medicine," he said, "is localization." Much more followed, wise, thoughtful, right-minded, and full of interest, well worth reading and study by all, but which cannot be reproduced here: the address can only be recommended. It concluded with an eloquent defence of vivisection and vivisectors, their motives and their practices, against the calumnies uttered by their opponents.

After this address there followed a swift and complete dispersion of the individual units to their different festive entertainments, where hospitality profuse and unstinted was shown on all sides. Perhaps there may have been individual exceptions, but the general testimony was satisfaction to repletion; and with the genial enthusiasm and *bonhomie* consequent upon a good meal, all met again at 9.30 in the South Kensington Museum to a conversazione, at which the Prince of Wales and the Crown Prince were present. This ended the first day.

On Thursday morning, work commenced by an exhibition of some rare cases of living specimens in the Museum. A large number of the foreign visitors spent their morning in going over the leading hospitals, as Guy's, the London, St. Thomas's. It indicates the managing powers of the Congress that none of the many excellent special hospitals which exist in London, and which are quite taking the lead of the general hospitals in their special departments, were noticed at all in the proceedings. In the Section on Diseases of Children, Lewis Sayre's treatment of spinal curvature was resumed in discussion. All thinking and reflecting surgeons see the soundness of the plan and the utility of his jacket in bending and yielding spines, as a preventive, as well as in the rectifying of distorted spines.

The subject of localization of function in the brain received a considerable amount of attention. First, Brown-Séquard had his say against it; then Prof. Goltz blew his trumpet on the same side, and exhibited a dog in which he had successfully (?) destroyed all the so-called cerebral centres except the anterior-frontal convolutions; yet the animal, eight months after this mutilation, performed all its movements in a normal manner. Thus challenged, Prof. Ferrier trumped Goltz's card

with a monkey in which the centre for movement by flexing the fore-legs was destroyed, the animal manifesting undoubted and indisputable evidence of a corresponding loss of power. In this case the mutilating operation had also been performed a number of months previously.

The subject of antiseptic surgery was thrashed out in the Military Surgery and Medicine Section. Some microscopical demonstrations of double and treble staining of tissues were given. The address on "Le Scepticisme en Médecine, au Temps passé et au Temps présent," to have been delivered by the late Prof. Maurice Raynaud, of Paris, was read by his friend Dr. Féréol. A banquet was given in the evening by the Lord Mayor to two hundred and sixty of the members of the Congress. Here was again much private entertainment also.

On Friday all was in full swing at the sectional meetings. The subject of oöphorectomy was started by its originator, Battey, who pleased those whom he did not convince as to the possibility of diagnosing a misplaced ovary by external manipulation. At the conclusion of the morning sitting in the Obstetric Section was held a meeting of American delegates to constitute a committee to thank the Britisher for his hospitality. Pallen was asked to take the chair, and he presided admirably. The stalwart figure of D. Yandell was seen to erect itself, and shortly the deep notes of his sonorous voice were heard in all their impressive slowness. The scene was an interesting one for a person who is not personally acquainted with Americans. The sonorous "ay," "ay," heard from all parts of the room when a motion was put, reminded one of the old Puritan ways, and contrasted with the noiseless lifting of the hand which is the practice with us. A handsome, tall, well-built crowd they were, very English-looking, —not one corresponding to the American type of the caricaturist. Their expressions of satisfaction with their treatment were very gratifying to the ear of one of their hosts. The visits to the hospitals were resumed. The eloquent address of Dr. Billings on "Our Medical Literature" was listened to attentively by an admiring audience. Among other matters, he contrasted the profusion, the luxuriance of growth, of medical journals in his own country, with the paucity of like journals in England,—her old journals, however, being planted in very secure foundations, while very few new ones were started.

The medical ladies were indignant at being excluded from the Congress, and, smarting under the indignity, held a garden-party at their School of Medicine in the afternoon, at which a number of sympathizers were present. (The daily press gave more prominence to those present at this gathering than at any other in the Congress. *Absit omen!*)

In the evening one of the most striking of all the receptions was held, viz., a conversazione in the Guild-Hall, given by the Lord Mayor and Corporation of the City of London to a certain number of the members of Congress and their ladies. The hospitality was at once generous and genial. A selected number of guests were invited; but the Londoner repeated what he practised when the British Medical Association was here in London,—viz., pushed in himself and almost overlooked his guests. Many who might very fairly have expected to be invited among these guests were overlooked, while very ordinary Londoners moved heaven and earth, or their local city equivalent, to procure tickets for themselves. Fortunately, all the rooms were thrown open, so that there was space for all the multitude who thronged there, to see a sight probably few will see again. But of this I speak only from hearsay.

On Saturday morning the Sections went to work with a will, as there was much to be done in the way of excursions. In the Materia Medica Section, H. C. Wood opened a discussion on a most interesting subject,—"The Nature and Limits of Physiological Antagonism." The subject of nephrectomy received further attention.

But Saturday is the day of excursions *par excellence*. At noon a large party went to visit the Sewage Farm of Croyden, to inspect the works, the farm, and the river Wandle, into which the outflow of the sewage farm falls, bright and transparent and containing shoals of fish. Others went to Folkestone to do honor to the memory of Harvey, the discoverer of the circulation of the blood, who was born there in 1578. On the tercentenary of his birth a memorial window was placed in the parish church. A movement was set on foot by Dr. G. Eastes, a member of the Harveian Society, to erect a statue to his memory at the same time, which has been successful. A handsome statue of Harvey was unveiled by Prof. Owen, C.B., who delivered an address in which he eloquently defended the practice of vivisection from the aspersions and calumnies of its wrong-headed opponents. The Southeastern Railway granted free passes, and the Mayor and Corporation entertained the visitors afterwards in the Town Hall with a handsome collation. Others wended their way to Hampstead as the guests of Mr. Spencer Wells, and enjoyed the garden-party much. In the evening a dinner was given to a party of the members at the "Star and Garter," Richmond Hill, by the United Hospitals Club. All were ready for a quiet Sunday, regretting that Dean Stanley could not deliver the sermon which he had promised and to which all had looked forward with so much anticipation. The genial catholic-minded dean was lying beside his wife in Westminster Abbey, having died of erysipelas just before the meeting of the Congress. Stanley, Rolleston, Raynaud, and many more who were

to have taken part in the Congress have been removed by death since the first arrangements were made. Mr. Erasmus Wilson had a party of fifty down by a special train to visit him for the day at Margate. For the bulk who remained at home the Botanic Gardens and the Zoological Society's Garden were thrown open. One of the curious accidents of imperfect arrangement was that on visiting the Zoo and presenting their card of membership the porters refused to admit any lady. "The card admits the member only," was the steady answer. To whose fault of omission or whose "pure cussedness" this ungallant conduct is due is unknown; but the step gave universal offence. It was at once uncalled for and discreditable; for the Zoo was just the place of all places to which to take a lady. Nor was the company gathered there very select. Most of the subscribers to the Zoo had left town and given the tickets remaining unused to their domestics, who naturally wished to see the doctors. Consequently, the members of the International Medical Congress had ample opportunity for observing on a large scale the domestics of our "good families" and their friends,—a well-behaved but not very distinguished section of the body social. This, together with the refusal to admit "ladies" with the members, excited a good deal of sharp criticism.

On Monday, the Sections went to work with a "slaughter of the innocents" in the way of getting through the papers remaining unread. The great event of Monday was the garden-party given by the Baroness Burdett-Coutts in the afternoon. The weather, which had hitherto been all that could be wished, became contrary, probably surprised at its own good conduct, and a steady rain spoiled the programme, though some thousand and odd were entertained in-doors. In the evening a dinner was given to the foreign members by the Society of Apothecaries, and later on there was a conversazione at the Royal College of Surgeons, which was well attended.

Tuesday was the last day. The Sections worked off their list as best they could. At 2 P.M. there was a general mutual-laudation meeting, as is the usual finish to such gatherings. Those concerned patted each other on the back, complimented each other, and were certain all had been managed to the best of human ability. And, on the whole, the thing was fairly managed. Of course there were "hitches," and some visitors overlooked who ought to have been honored; but, after all, the thing was creditable to man in his unglorified state. The seventh meeting of the International Medical Congress was declared a complete success,—"the largest gathering of medical men ever known." The weather had repented itself of its outbreak of temper, and it was once more sunny and breezy when the remains of the Congress betook themselves to the Crystal Palace for a spell of relaxation. A few wended their way to the Isle of Wight to take their part in the annual meeting of the British Medical Association, which commenced at Ryde on Tuesday, the 9th, under the presidency of Mr. Benjamin Barrow. Certainly some fresh air and a taste of the "briny" would be very acceptable after the sojourn in London. And so ended the "monster Congress," and—well, we are glad it is successfully over.

The meeting of the British Medical Association was a small one indeed,—but the semblance of a meeting; nor was there anything of interest brought forward in the Sections. Any man who had anything to say delivered himself thereof at the Congress. The British Medical Association meeting was but the "after-pains" of the act of parturition.

J. MILNER FOTHERGILL.

PROCEEDINGS OF SOCIETIES.

AMERICAN DERMATOLOGICAL ASSOCIATION.

FIFTH ANNUAL MEETING.

Held at NEWPORT, Rhode Island, August 30 and 31 and September 1.

THE first day's proceedings were opened by an address from the President, Dr. James Nevins Hyde, of Chicago, entitled

THE RELATIONS OF DERMATOLOGY TO PERIODICAL MEDICAL LITERATURE.

After alluding to the addresses of his predecessors, which contained an account of the rise and progress of American dermatology, the speaker said it was his purpose to inquire briefly what may be rightly expected of periodical dermatological literature in its attempts to supply the needs of the profession at large, respecting chiefly the diagnosis and treatment of skin diseases. Such literature exists in the form of special journals on one hand and current general medical issues on the other. The list of the former is limited, their subscribers also are limited, and the number of general practitioners who consult them is smaller still. Most medical men derive their knowledge of dermatological subjects, limited or the reverse, from the vast number of general medical journals published here or abroad.

Contributions on dermatology to general medical journals, which, from their wider circulation, secure a more extensive reading, may be assigned to four categories:

1. Solid and praiseworthy observations of fact, or deductions of a trustworthy character from the observations of others.

2. Reports of imperfectly-observed facts, and crude opinions derived from these imperfect observations.

3. The worthless papers of men totally ig-

norant of the meaning of the terms they have attempted to employ and of the significance of the relation of the facts observed to each other or to other facts beyond the scope of their recognition.

4. A class of papers which are negatively a source of mischief, worked chiefly, however, to the authors themselves. These are written by men who should know well the subjects which they attempt to discuss, if we judge them from the stand-point of position and experience. But, either from an undue haste originating in the pressure of many duties, or from a foolish desire to identify themselves speedily with the subject upon which they write, or even from other motives not of the highest character, they deluge the medical press with voluminous papers filled with verbose iterations of ideas made public before their day, often by others in much better form, which serve to encumber the world with a little more of the rubbish swept annually by a pitiless indifference into the limbo of the forgotten.

A comparison of the papers published in the last few years with those of an earlier date shows a very marked improvement and promises well for the future. On some topics, however, there is room for more extended knowledge among the mass of the profession; and these are just the ones where the possession or absence of information will make the difference between brilliant success and dismal failure.

The speaker then went on to allude to the various affections of the skin in which mistaken diagnoses are frequently made, and touched upon the popular errors in etiology prevalent. Some of the popular errors which require refutation or correction are the following:

1. That because a disease exists and is visible on the surface of the body it for that reason alone requires active internal or external treatment. Some diseases of the skin need no treatment. These cases occur to all of us in our daily experience. The speaker had recently observed forty cases of rötheln, in not one of which was any drug administered, and in none did any accident occur worthy of mention beyond the usual features of the disease.

2. That because a disorder of the skin exists it can always be readily relieved by an expert. There are cutaneous maladies which prove inevitably fatal. There are others of such an inveterate character that the skill of the most practised is unable to give relief.

3. That, after relief is secured by treatment, many diseases of the skin may be so managed that they will not recur. This implied demand seems to be made upon the dermatologist alone. The patient with a fractured leg does not ask of his surgeon a guarantee that he will not suffer a similar accident if he again falls beneath the wheels of a rolling car. The convalescent from a follicular enteritis does not demand a future immunity from errors of diet in an unfavorable season or an unpropitious climate; and so the patient with a disease of the skin should not expect to be protected against the results of neglect or imprudence. Some diseases of the skin recur continually and will do this for a lifetime. It is true that these recurrences usually result from adverse extrinsic influences; but it is often not in the power of the physician to set these aside. In such cases he discharges his full duty when he forecasts the future and describes the results of the best treatment under forbidding circumstances.

4. That the expert, upon examination of but a portion of the affected integument, is competent to pronounce at once upon the character of a disease. No opinion is worth the time of the patient or consultant which is not based upon a most careful, exhaustive, and patient investigation, not only of the visible symptoms present to the eye upon the surface, but also of the history of the case and all other pathological facts obtainable. Strange that the dermatologist alone should be supposed absolved from the necessity of a careful study of his cases. It is a common experience to be shown a patch of diseased skin or a few distorted hairs, upon which follows the inevitable question, "What do you call this?" The speaker had recently been stopped on the street by a physician of large practice and wide reputation,—doubtless on his way to the bedside of his patient,—who hurriedly demanded, "Please tell me how to treat eczema?"

5. That a practising physician need not always make an accurate diagnosis, and that a failure on his part to do this need not be considered as perilous to himself. The time has passed when intelligent patients can be put off with a long-sounding name and a prescription written in a dead language. For many of them it will no longer suffice to be informed that they are affected with a "disease of the skin." They demand what the affection may be, and sooner or later patients of this class lose confidence in the physician who attempts to treat without knowing the name or nature of the affection with which he has to deal, and find out for themselves the person who is competent to describe their condition and to advise them judiciously with regard to its management. We, who often are consulted at this juncture, are sometimes compelled to listen, with a feeling of shame for our profession, to indignant reproaches on the lips of those who but a brief time before trusted to the honor and relied on the skill of our brothers in medicine.

Let no man regard these statements in the light of a plea for a wider range of possibilities for the consultant. The educated gentlemen who have made themselves masters of any special department of science, in this

country, certainly have found no lack of appreciation and that reward for skilled labor which all honest work inevitably yields. They surely need have no plea entered for them. This Association has steadily set its face in the direction of the needs of the physician in general practice with respect to a knowledge of cutaneous diseases, and has made a most important and valuable advance in the diffusion of such knowledge in America. If the words of the speaker could be interpreted as a plea, they should be held as pleading for higher attainments on the part of the general practitioner.

6. That such remedies as mercury, arsenic, and the iodide of potassium may be administered in any case where an accurate diagnosis has not been established, and in such cases may be used unadvisedly. Said the physicians of a past generation, "When you do not know what else to do, treat for syphilis." It is difficult to touch upon this point without seeming to exaggerate. It is not too much to say that for one patient who is benefited by the administration of these remedies in the hands of incompetent men, there are ten who are made worse. The vulgar idea that all disorders of the integument are in some obscure way to be connected with a syphilitic taint in one generation or another, the erroneous opinion that syphilis descends through many generations and lurks obscurely in the eczema of the infant, the psoriasis of the adult, the sycosis of the young man, or the acne of the young woman,—these are the spectres that scare the foolish, whether they call themselves doctors or laymen. It should be considered a crime to subject a man or a woman to a systematic mercurial course for the relief of an affection supposed to be syphilitic, but in reality not such.

7. Lastly, that the study of diseases of the skin is the pursuit of a narrow specialty, leading to a knowledge of superficial eruptions upon the surface of the body, and to an ignorance of the functions and maladies of important internal organs. Yet he who would specially devote himself to the investigation of the disorders of the skin requires fully as much as his fellows the amplest preparation in a finished medical education and experience, and when at last ready for his work he will discover, if he has not done so before, that he needs to be a physician in the highest sense of the term. There is no organ of the body, in health or in disease, which it may not become his duty to explore and investigate.

In conclusion, the speaker said that he had appended to his address a general alphabetical index, by authors and subjects, of all original communications which have appeared in the pages of our special dermatological journals, including also the papers written by members of the Association and published elsewhere.

Dr. Charles Heitzmann, of New York, read a paper entitled

A CONTRIBUTION TO THE MINUTE ANATOMY OF THE SKIN.

The writer described investigations made by himself in normal skin, chiefly as to the structure of the hair, going to show that the prevalent views as expressed in text-books and shown in pictures of the microscopic appearance of normal hair are erroneous and require revision. They are chiefly based on the researches of Biesiadecki, Kölliker, and himself, made many years ago, each subsequent writer having copied his predecessor or having at most blindly followed these investigators. The structures of the hair were simpler than described. The paper was accompanied by a number of drawings, and, in addition, by a complete and perfect section perpendicularly through the centre of the hair, perhaps the finest which has ever been made, and which showed each structure as in a schematic drawing.

Dr. James C. White, of Boston, read a paper entitled

THE LIMITATIONS OF INTERNAL THERAPY IN SKIN DISEASES.

The writer said he would like to approach the consideration of the subject from a purely empirical stand-point, uninfluenced by theories and traditions, and supported only by the results of observations made and recorded in ways recognized as strictly scientific. Cutaneous pathology offers an exceptional field for the study of drugs introduced through the stomach; for, in addition to the ordinary means of judging their effect, the phenomena of tissue-change or modification of function occur directly under the eye. Yet cutaneous internal therapeutics is no more fixed or satisfactory in its results than the therapeutics of general medicine. In spite of great activity and the fact that novelties even called specifics in skin diseases are scattered all along the history of medicine, only a few agents have attained and preserve a well-established reputation as serviceable in limited fields of usefulness. Dermatologists of repute in different countries still adhere to certain remedies from motives of conservatism or patriotism, while those of other countries cling to their pet drugs and regard foreign treatment as obsolete and erroneous. This unsatisfactory and contradictory condition of affairs must continue until better methods of study are adopted and the faults of individualism eradicated.

It would not be boastful to say that nowhere does there exist a body of dermatologists so broadly cosmopolitan in spirit and training, and representing such varied opportunities of research as are afforded by wide differences in climate and race, or one more

competent for such work, than the gentlemen who compose the American Dermatological Association.

The writer went on to sketch an imaginary committee who should conduct a systematic investigation of new drugs. When a member of the Association should present a paper on the specific effect of some drug in this or that affection, this would be submitted to the committee, who should follow some well-established procedure in testing its merits. In this way the Association would do much to discourage the loose writing and the claims based on insufficient observation which generally herald the introduction of each new remedy. To such a committee might be referred not only all appropriate communications presented to the Association, but all doubtful questions of importance in therapeutics, which now vex us so frequently, of old or new origin.

The following subjects of investigation might be cited by way of illustration:

1. The action, beneficial or injurious, of our most celebrated springs in affections of the skin. A report on this subject would do much to clear away the atmosphere of charlatanism which has hitherto obscured it, and develop some knowledge of certain characters regarding it, which the profession of this country has so long needed.

2. The power of electricity over the so-called neuroses of the skin (including zoster).

3. To what extent may certain substances in common use be applied to the skin without danger, viz., compounds of zinc, lead, mercury, carbolic acid, etc.?.

It is unfortunate that so few beds in hospitals are under our control, and that we must rely upon the voluntary visits of out-patients. But, even with such opportunities only at our command, much may be done.

The speaker then went on to speak of the vague and meagre knowledge possessed on the action of drugs on diseases of the skin, as illustrated in systematic treatises, going over each class of diseases *seriatim*, and stating the amount of exact knowledge possessed as to the influence of drugs internally administered on each. The number of individual affections of the skin recognized by us approaches closely one hundred. How many of these are under the direct control of internal medication in any uniform or marked degree? The speaker wished he might claim such power over ten of them,—such power as arsenic may exhibit in psoriasis, as mercury almost always does in syphilis, and which makes external treatment unnecessary.

The writer did not mean to deny that much may often be done to hasten their good work by the simultaneous use of remedies which elevate the general tone of the patient's functions and tissues, when needed, together with local treatment. The whole patient must always be considered. Moreover, the writer did not believe that the narrow limit of our exact knowledge on this subject could not be enlarged. He would encourage any experimental studies, empirical or philosophical, in this direction. It is the manner in which this important subject has been hitherto so generally treated, so detrimental to scientific progress, which he deprecated. But a frank confession of our present inabilities is an essential step in any real advance.

Dr. Heitzmann expressed his pleasure at hearing such sceptical views expressed. Men like Erasmus Wilson had done serious injury to dermatology by hastily asserting the influence of internal medication in diseases of a purely local character and indiscriminately.

(To be continued.)

REVIEWS AND BOOK NOTICES.

THE MOTHER'S GUIDE IN THE MANAGEMENT AND FEEDING OF INFANTS. By JOHN M. KEATING, M.D., Lecturer on Diseases of Children at the University of Pennsylvania, etc. Philadelphia, Henry C. Lea's Son & Co., 1881. 12mo, pp. 118.

This is one of the best books of the kind we have ever seen. Though popular in the sense of being intended as a hand-book for young mothers of the more intelligent classes, it is strictly scientific. Dr. Keating possesses the fortunate faculty of being clear and concise while writing in a charming style, which makes his little book entertaining reading. He considers his subject under three heads,—the general management of the infant from birth to dentition, general management during dentition, and management after early dentition. Most of his counsels are of a hygienic character; but he also gives some directions for the guidance of mothers whose children may be attacked by sudden illness when far from the aid of a physician. We can cordially recommend this mother's guide to the notice of physicians desiring to place a work of the kind in the hands of their patients.

GLEANINGS FROM EXCHANGES.

REMARKABLE CASE OF SYPHILITIC ENDARTERITIS OF THE CEREBRAL ARTERIES IN A CHILD AGED FIFTEEN MONTHS.—Dr. H. Chiari, of Vienna, gives the following case. A female child, apparently healthy, was born at full term, of a mother aged twenty-one years, who had been married about four years to a man suffering from syphilis. She had previously been delivered of a dead infant, ten months after her marriage, and nearly two years after was treated by Prof. Zeissl for

roseola and ulceration of the pharynx and tonsils.

The first six weeks of the child's life were free from disease; then moist papules appeared about the anus and poisonous patches on the feet and hands; later, other pronounced syphilitic lesions occurred. After those first described had yielded to treatment, these (faucial ulcers, nasal catarrh, epidermic lesions) also yielded to treatment. At the age of eleven months, symptoms of central nervous affection were observed,—viz., ptosis of the right eye, dilatation of left pupil, paralysis of the right facialis; also apparently a gummy tumor on the right half of the tongue. Despite treatment, the child continued to emaciate, the symptoms persisted, and four months later the right side of the body was completely paralyzed. Epileptic attacks closed the sufferings.

Post-mortem examination.— Large fontanelle still open; inner meninges, in general, markedly œdematous and somewhat thickened; many small, flat, whitish patches on the arachnoid and pia, both over the convexity and the base of the brain. There were counted at least twenty such patches of large dimensions over the left cerebral hemisphere, besides many smaller ones, and perhaps as many over the right; about the large basal arteries of the brain there was moderate thickening; the most of these, and especially the vertebrals and basilar, exhibited great alterations; their walls were thickened and hard to the touch. Upon making sections into the vessels the following was noted. The basilar artery in its posterior two-thirds and the vertebrals in their upper parts were completely obliterated by a softish tissue. In both vertebrals, just below their obliteration, were old blood-clots, making complete thrombosis. Both internal carotids and the sylvian arteries, especially the left, had irregularly thickened walls; the other arteries of the brain appeared of delicate structure. The brain itself contained a moderate amount of blood, and was very soft. The cerebrum exhibited here and there, both in the medullary portion and in the large ganglia, whitish-yellow masses of distinct contour and varying in size up to a pin's head. The ventricles were of the usual dimensions. The right facial nerve was somewhat thicker than the left. There were characteristic ulcers of the larynx, soft palate, and tonsils. The liver was rather firm.

Microscopic examination.—The inner meninges everywhere exhibited an infiltration of small cells; the flat, whitish patches proved to be products of inflammation, as they consisted of granulation tissue and dilated vessels. The arteries at the base of the brain illustrated perfectly the so-called syphilitic endarteritis. Cross-sections in the posterior two-thirds of the basilar artery showed this vessel to be filled with gummy connective tissue, with numerous round cells, spindle cells, and cells with several processes. There were brown pigment-granules in the connective tissue, and perfect blood-vessels, capillaries, and others with a distinct muscular coat. The fenestrated membrane was broken through in many places, through which the new connective tissue blended with that in the middle coat, which had degenerated and was traversed with newly-formed vessels. The adventitia was thickened and likewise infiltrated with small cells. The upper portions of the vertebrals were in the same condition. The thrombosed parts of the vertebrals as well as the diseased internal cavities and sylvian arteries exhibited in spots a thickening of the intima, a formation of connective tissue in the place of the delicate endothelium, which, overlying this, was apparently in a state of proliferation.

The whitish-yellow spots in the cerebrum were cell-infiltrations, possibly the outcome of embolism.

The right facial nerve exhibited a greater infiltration of small cells than did the left one. In the liver was found great increase of the interstitial connective tissue.—*St. Louis Courier of Medicine;* from *Wien. Med. Woch.*, November 18, 1880.

Inoculability of Tuberculosis.—Dr. W. F. Whitney, in a paper read before the Suffolk County Medical Society of Massachusetts (*Boston Medical and Surgical Journal*, vol. cv., No. 4, 1881), says, "The conclusion which we are obliged to draw is that there is still uncertainty in the matter, considering that all the experimenters are not agreed in the results which they have reached. It is true that almost all have obtained an eruption of miliary bodies after injections, inhalation, and feeding with what was presumably tuberculous material; but the interpretation as to what these really were has differed with the experimenter,—the one side holding that they were simple inflammatory products, the other that they were true tubercles. Then, again, allowing that they are tubercles, is the tubercle the result of a specific process, or is it simply one of the expressions of inflammation that may arise as the result of various irritants?

"Taken by themselves, the latest experiments of Cohnheim, Tappeiner, and Orth, who are perhaps the more worthy of belief in that they have been able to avoid some of the errors of the earlier investigators, seem to point clearly to the fact that tuberculosis is an acute infectious disease; and Klebs has proposed for the nodules of syphilis, glanders, and tuberculosis the name of infectious tumors rather than that of granulation tumors, under which name they have been associated together by Virchow on account of their histological character; and Cohnheim has gone so far as to propose as a test for tubercle, not its histological structure, nor its peculiar ar-

rangement of cells of varying size, without vessels and with a tendency to cheesy degeneration, but its capability of inoculation.

"But, whatever may be the opinion of individuals, the mass of scientists have a right to demand more and clear proof; and it may confidently be expected, with the light thrown upon the subject already, that within the next five or ten years sufficient proof will be furnished to prove or disprove the question.

"So much for the scientific aspect of the question; and while we are waiting for this solution of the subject, there are hints thrown out in these experiments which may serve as guides in practice. It is with this in view that I have brought the experiments before you according to the ways in which the substance has been introduced into the body, and these, as you remember, are by direct inoculation, as food, and by inhalation. The first need not detain us. As to the second, there is little danger of directly eating tubercle, it is true, but there is a disease of cattle which has only very slight anatomical differences from, and is believed by the greater part of observers to be identical with, human tuberculosis; and if the results obtained by certain experimenters are verified, it does not require a very acute mind to see the danger of infection that is run by all of us, but especially by children. Our present state of knowledge does not warrant us in getting up a popular excitement or scare on the subject, but it behooves us as physicians to thoroughly investigate the source of supply when we place a patient upon milk diet, and, above all, when we wish that a weakly child should have the milk of one cow, be sure that that cow is healthy.

"The other possibility of infection lies in the atmosphere in the neighborhood of tuberculous patients becoming charged with particles by their expirations and coughing. And, knowing how utterly powerless we are to cure the disease when once established, we should impress upon those in close attendance upon the sick person the necessity of holding their breath when duty or affection brings them into close proximity to the face of the sufferer, especially during the act of coughing; also the great desirability of keeping a strong solution of carbolic acid or thymol in the vessels used for the reception of sputa from such patients, especially in hospitals, where the patients had perhaps best be kept in a separate ward."

THE ACTION AND USES OF CITRATE OF CAFFEIN. — Dr. Brackenridge (*Edinburgh Medical Journal*, August, 1881), in an article on this subject, gives the following conclusions regarding the employment of citrate of caffein:

1. In cases in which the renal glandular epithelium is diseased, is already doing a maximum amount of work, or is exhausted, this drug is unsuitable and should not be administered. 2. During recovery from acute desquamative nephritis, when renewal of the renal epithelium has reached a certain point, citrate of caffein cautiously administered has appeared to me to have had a decidedly beneficial effect; possibly, in such cases, it may exert a trophic as well as a secretory stimulant influence. 3. In such cases, as the arterial blood-pressure is tolerably normal, citrate of caffein should be given alone, not in combination with a vascular diuretic. 4. In cases of cardiac disease, with absence of compensation, and resulting diminution in the blood-pressure and flow of blood through the kidney, general dropsy, and transference of work in the kidney from the filtering to the secreting structures, a vascular diuretic, such as digitalis, must be employed in the first place to restore those conditions in the kidney which are essential to the action of citrate of caffein. For this purpose digitalis should be administered for a short period—one to three or four days—before commencing the citrate of caffein. 5. Citrate of caffein employed in this manner in conjunction with digitalis—which, for obvious reasons, must not be discontinued when the caffein is commenced—is a diuretic of extraordinary power, acts with great rapidity, and is especially valuable in this respect, that it causes a great increase in the elimination of urea (and probably of other solids) as well as of water. 6. It must, however, be remembered that special and powerful stimulation of any gland, especially if it be in a state of malnutrition, may, and usually does, lead sooner or later to exhaustion, and must therefore be regarded as at best a temporary expedient and of limited duration. 7. For this reason very large doses of citrate of caffein should be avoided. He has found gr. iii, administered once, twice, or three times daily, according to the circumstances of the case, amply sufficient for all purposes. 8. Whenever the beneficial effects of the drug have been attained, we should at once endeavor to render them permanent by suitable diet, well-selected chalybeate and other tonic remedies, or other remedial measures indicated by the special circumstances of the case. 9. Finally, in cases of very great ascites, in which the blood-pressure in and the flow of urine through the kidneys is interfered with by pressure on the kidney and the renal artery and vein, and in which the pressure of the urine within the capsules is increased by pressure on the ureters, neither vascular nor secretory diuretics, alone or combined, can act efficiently until the pressure of the ascitic fluid has been got rid of. 10. The citrate of caffein may be administered either in pill or in solution.

A CASE OF HYPODERMIC INJECTION IN NÆVUS.—Dr. S. Hudson says, "I observed a short article in the last number of the *Recorder*, from a correspondent of the *British Medical Journal*, on the danger of hypoder-

mic injections of tincture of iron in nævus. I, too, have had some experience in the use of injections in nævus, though not with the iron. About three years ago Mr. T., a young man about twenty years of age, came to my office and showed me a small warty excrescence on the end of his left index finger. He informed me that at times it bled profusely, and desired me to take it off. Without further examination or thought, I took my hypodermic syringe with a strong solution of nitrate of silver—perhaps three or four drops—and injected it into the nævus. In less than five minutes he was suffering the most intense pain and agony; his hand and arm up to his elbow became white and cold; and for three hours we labored constantly, rubbing and bathing it in hot cloths. I finally succeeded in quieting him with morphine, and his father took him home. The next morning I had the mortification to see that two of his fingers were dead—the first and second—to the second joint, and I feared from his appearance that he would lose his arm, if not his life. We did all we could in order to restore the warmth and color to his hand, but all to no purpose, for in less than a week the index finger (in which I inserted the solution) and the next one to it were black and dry as far up as the second joint, and his suffering for ten days was terrible. In eight weeks a line of demarcation commenced forming, and I had the *pleasure* of amputating the poor boy's fingers just above the second joint.

"I censured, reproached, and cursed myself and everybody else. Others had used hypodermic injections in nævus; I had used them before, with no unpleasant results; and why all this trouble? I could readily understand what was the cause of such unpleasant results. The solution had entered a small blood-vessel, producing coagulation and thrombus, but it was too late to remedy my mistake. The community, I can assure you, gave me no credit for the matter, and the friends of the boy were advised to prosecute me.

"The hypodermic syringe is a great favorite with me, but I do not believe I shall ever use it again in nævus with a solution of nitrate of silver or tincture of iron."—*Ohio Medical Journal.*

Congestion of the Lungs in Sunstroke.—Dr. G. Harrison Younge (*British Medical Journal*, vol. i., 1881, p. 881) has no doubt that the congestion of the lungs observed in sunstroke results from paralysis of the pneumogastric nerves, at the same time that there is irritation of the sympathetic, and, moreover, that death is in a great measure due to these lesions. The symptoms that point to this are occipital headache, difficulty of deglutition, oppressed and labored breathing, tumultuous action of the heart, rapid full pulse, and nausea, with endeavors to vomit. On post-mortem examination, the heart is found rigid and firmly contracted, the arteries are empty, while the venous system is overloaded, and the lungs are gorged with blood and more or less œdematous. If this condition is contrasted with the post-mortem appearances in cases where division of the pneumogastric nerve has occurred, a striking analogy will be seen between them. The probability of the symptoms above detailed being due to paralysis of the pneumogastrics is further increased by the fact that the sun exerts its principal influence on the medulla oblongata, and that in these cases there is always more or less evidence of paralysis of the other nerves arising from this part of the brain. Dr. Younge thinks death due in a great measure to the same cause, though, of course, the increase of temperature has much to do with it. He suggests stimulation of the pneumogastric nerves by electricity as a part of the treatment in sunstroke.

Carbolic Acid.—M. Lucas-Championnière (*Chirurgie Antiseptique*, etc., 2me éd., Paris, 1880) endorses Nussbaum's suggestion to rub the hands with a mixture of one part of crystallized carbolic acid and nine parts of vaseline before beginning an operation that is to be conducted under the spray, in order to avoid the unpleasant effect of the spray upon the hands.

The same author (quoted in *Union Médicale*, February 20, 1881) recommends the following formula for an antiseptic solution, in which the odor of carbolic acid is mitigated: Crystallized carbolic acid, 50 parts; thymol, 1 part; glycerin, 50 parts; water, 1000 parts.

Guénot (*Concours Médicale*, May 21, 1881) relates a case of facial erysipelas and one of malignant pustule in which signal benefit followed injections of a two-per-cent. solution of carbolic acid into and around the inflamed parts. Sixteen drops of the solution were injected at each puncture, of which five were made in the one case and seven in the other.

The *Canadian Journal of Medical Science* for May, 1881, gives the following formula for an improved styptic: Collodion, 100 parts; carbolic acid, 10 parts; tannin, 5 parts; benzoic acid (from the gum), 5 parts. Mix the ingredients in the order here written until perfect solution is effected. The preparation has a brown color, and on evaporation leaves a firmly adherent pellicle. It instantly coagulates blood, forming a consistent clot, and a wound rapidly cicatrizes under its protection.

Naso-Cranial Osteitis.—Prof. Fournier, in a lecture on the syphilitic form of this affection, thus concludes:

"1. If, in the great majority of cases, syphilitic nasal osteitis creates no danger to life, there is, nevertheless, one kind which is an exception to the rule. This kind is osteitis of the roof of the nasal fossa (*naso-cranial osteitis*), which owes its dangerous character entirely to its locality.

"2. The danger of this naso-cranial osteitis is a tendency to irradiate towards the organs

contained in the skull, the transmission being anatomically propagated by various lesions, the most common and principal ones of which are meningitis, encephalitis, and abscess of the brain.

"3. Clinically, these cerebral complications present themselves under two forms:

a'. A chronic form, characterized by vague symptoms of encephalitis, slowly progressive, with sudden and apoplectiform termination.

b'. An acute form, characterized by symptoms of an incomplete, irregular encephalitis, which becomes rapidly mortal.

4. It is not rare for these cerebral complications to remain absolutely latent, in a clinical sense, and terminate in an unexpected manner by a sudden death of a fulminating character."—*St. Louis Medical and Surgical Journal;* from "*Annales des Maladies de l'Oreille,*" etc.

Periods of Incubation of the Communicable Diseases.—Dr. B. W. Richardson gives a list of twenty-five communicable diseases which have a period of incubation. He adds a list of eleven diseases concerning which it cannot be said certainly that they have a period of incubation. These latter are: catarrh, puerperal fever, pyæmia, hospital gangrene, sloughing phagedæna, phagedæna, remittent fever, intermittent fever, choleraic diarrhœa, cerebro-spinal fever, carbuncle.

The diseases attended with stages of incubation are conveniently divided into five groups:

Shortest.—Incubation one to four days: Malignant cholera, malignant pustule, plague, catarrh, dissection wound diseases.

Short.—Incubation two to six days: Scarlet fever, rosalia idiopathica, diphtheria, dengue, erysipelas, yellow fever, pyæmia, influenza, pertussis, glanders, farcy, grease, croup, puerperal fever.

Medium.—Incubation five to eight days: Relapsing fever, gonorrhœa, vaccinia, inoculated variola.

Long.—Incubation ten to fifteen days: Smallpox, varicella, measles, rötheln, typhus, typhoid, mumps, malarial fever.

Longest.—Incubation forty days or more: Syphilis, hydrophobia.

Exophthalmic Goitre treated by Quebracho. — The patient was a woman, thirty-seven years of age, of neurotic temperament, and suffering from menstrual derangement. Dr. Draper remarked that organic lesions of the heart were frequently diagnosed in Graves's disease when only functional derangement exists. Where moral causes, grief, disappointment, shock, are at the root of the evil, time was the great restorer. Exophthalmic goitre dependent upon anæmia, chlorosis, menstrual trouble, dyspepsia, or glycosuria, demanded treatment directed to the conditions with which it was associated. This patient was put upon iron in the form of a carbonate, digitalis, and the alkalies. Rest was imperative. Patients of this class were liable to congestion, epistaxis, and œdema of the lungs, under an exaggeration of the original neuroses. This woman had an attack of pulmonary œdema, which was associated with exaggerated resonance and an entire absence of moist râles. She was relieved by the use of quebracho, morphine, nitrite of amyl, and local remedies. Two weeks later the patient had so far improved, under the use of iron and cardiac stimulants, that she was able to walk about the wards. Dr. Draper has employed the iodide of potassium under similar circumstances, with gratifying results in a few cases. (New York Hospital.) —*New York Medical Record.*

Belladonna and Arsenic in the Sickness of Pregnancy.—Dr. W. Macfie Campbell writes to the *British Medical Journal* (vol. i., 1881, p. 881) a case of distressing and rebellious vomiting in pregnancy where two minims of tincture of belladonna in a drachm of water, given every hour, put an end to the trouble completely. In another case, in a young lady, where an attack of acute ovaritis was followed by general peritonitis, several days' incessant retching had reduced the patient so greatly that collapse was hourly expected. Five minims of the tincture of belladonna in water were given every hour until six doses had been taken. On the doctor's next visit he learned that his patient had vomited only twice; and that symptom never returned.

Dr. John Warren (*New York Medical Record*) says that he has found Fowler's solution, given in drop doses on an empty stomach, comes nearer a specific for this affection than any other remedy. After it has been continued some time, benefit comes from suspending it in favor of nitro-muriatic acid with tincture of nux vomica, especially if anorexia exist or there is inactivity of the liver or kidneys.

Cysts of the Cervix Uteri filled with Air.—At a recent meeting of the New York Obstetrical Society, Dr. T. A. Emmet narrated a case as follows. A patient, upon whom Dr. J. R. Ripley had operated for a deep laceration of the cervix some months ago, had returned to him recently, and, on making an examination, he detected with the finger a number of supposed cysts on the cervix. When he punctured one of them, it was found to be distended with air, which escaped with an explosive sound like that from suddenly crushing an inflated paper bag. Dr. Emmet had been shown the case by Dr. Ripley, and he found a number of such air-sacs, varying in size from that of a millet-seed to one as large as a cherry-stone. He had seen reported somewhere one or two instances of like collections of air in the vaginal tissue, but never in the cervix. He supposed they were originally ordinary cysts, the

contents of which had undergone decomposition in some way and left the sac distended with air. He asked if any of the members present had seen such or the report of a similar case. Dr. Noeggerath and Dr. Thomas replied in the negative.—*New York Medical Journal*, July, 1881.

Composition of Jaborandi.—A new preparation of jaborandi has been introduced in Italy under the name of *pilocarpina sciropposa pura*, which, dissolved in water and applied to the eyes, will cause myosis, which ceases after an hour, when mydriasis will follow and last for twenty-four to sixty hours. Pure pilocarpin and its salts are said to never produce this secondary mydriasis in any dose. Taking a quantity of this preparation and adding a little hydrochloric acid, Dr. Albertoni found that most of the substance crystallized. These crystals, being separated and washed with ether, produced myosis only. The non-crystallizable portion, being also applied to the eye, caused mydriasis, resembling in a general way the effects of atropia, and not those of pilocarpin. This new product he calls *anti-pilocarpin* (*Medical Times and Gazette;* from *Gior. della Saluta*).—*New Remedies*, April, 1881.

Polyuria Syphilitica. — According to Prof. Semmola, there exists a new form of cerebral syphilis, the symptom of which is polyuria. Prof. Semmola has observed three cases. One of the patients observed, within twenty-four hours, excreted forty-three litres of urine, the specific gravity averaging between 1001 and 1003. All the curative remedies which were given proved not only unavailable, but even increased the symptoms, until he found traces of an old constitutional syphilis. Recognizing that a syphilitic process may have developed upon the floor of the fourth ventricle, reproducing pathologically the physiological experiments made by Claude Bernard, he submitted the patient to hypodermic injections of the albuminate of mercury and to the internal use of the iodide of potassium. The cure was effected within two months.—*Courrier Méd. Gaz. des Hôp.* (*Exchange*).

Atropia in Visceral Hemorrhage. — Tacke (*Berliner Klinische Wochenschrift*, 1881, No. 6; quoted in *London Medical Record*, April, 1881), having injected sulphate of atropia subcutaneously for eczema in a female patient ($\frac{1}{200}$ grain twice daily for two days), noticed that the menses, which had been very profuse, became moderate and remained so. The same result he has seen follow five times in two other patients, and in a case of hemorrhage from the lungs the hemorrhage twice ceased immediately on the injection. He holds that as a remedy for visceral hemorrhage it is preferable to extract of ergot (1) on account of its certainty and (2) because, in the strength used by him (about $\frac{2}{5}$ grain to an ounce of distilled water), it does not cause the inflammation which almost invariably follows the subcutaneous injection of extract of ergot.—*New York Medical Journal*, July, 1881.

The Administration of Purgatives by Hypodermic Injection. — Much attention has been directed in Germany and Italy to finding some means of replacing tartar emetic, ipecacuanha, and saline and vegetable purgatives of all kinds, by simple hypodermic injections of apomorphia and aloin (the alkaloid of Socotrine aloes). Just as with a subcutaneous injection of apomorphia effects of nausea and vomiting have been obtained, so with a warm aqueous solution of aloin ($\frac{1}{25}$) injected in the thigh or forearm there have soon been produced true symptoms of purgation. In these cases the remedy does not act by direct contact with the gastro-intestinal mucous membrane. These, as the *Paris Médical* says, are very singular facts, which call for serious study and verification.—*Medical Press and Circular.*

Antiseptic Inhalations in Pulmonary Phthisis.—Dr. Coghill (*Practitioner;* from *British Medical Journal*, May 28, 1881) recommends the following formula in phthisis when the purulent stage is coming on. It is also useful in the purulent expectoration accompanying pneumonia, in the profuse expectoration of purulent bronchitis, as also in bronchial asthma.

℞ Tinct. iodini etherealis,
Acidi carbolici, āā ʒij;
Creasoti, vel thymoli, ʒj;
Alcoholis ad ʒi.—M.

Patients, while using this form of inhalation, frequently experience great relief from the aches and flying muscular pains which often occasion much distress in the advanced stages of phthisis.

Inunction as a Remedy for Local Inflammation.—Dr. Edward T. Williams, in a letter to the *Boston Medical and Surgical Journal*, highly recommends the old-fashioned remedy of applying oil or grease externally for acute inflammations. He has used it for years, and finds it a very efficient substitute for a poultice. In almost all forms of acute inflammation of the thoracic and abdominal viscera, also in inflammatory sore throat, abscesses, and some cutaneous eruptions, it is very valuable. He generally orders lard,—which is to be found in every household,—simply rubbed upon the skin and covered over with a piece of flannel. If a stimulating effect is wanted, he adds a little salt, when the mixture answers as well as camphorated oil.—*New York Medical Record.*

Hamamelis Virginica as a Local Application. — Mr. Netherclift (*British Medical Journal*, June 18, 1881) uses an extract of hamamelis called "hazelin" as an application to irritable and inflamed piles at the margin of the anus. He bathes the anus with the solution three or four times a day,

while a piece of lint dipped in it is kept applied to the anus during the intervals. All urgent symptoms, as a rule, pass away in from twelve to twenty-four hours. In chronic and intractable ulcers of the varicose or eczematous description, excellent results have been afforded by using the "hazelin" (probably the same as our "Pond's extract") after the fashion of a water-dressing.

EUCALYPTUS GLOBULUS AS AN ANTISEPTIC DRESSING.—Prof. Lister (*Practitioner;* from *Lancet*, May 21, 1881) believes the oil of eucalyptus to be a perfectly trustworthy antiseptic, while free from the toxic or locally irritant effects of carbolic acid. Dammar varnish holds the oil in combination and prevents its too ready evaporation. Gauze impregnated with this mixture and paraffin has been prepared, and is in appearance and feel exactly like carbolated gauze, while it is unlike it in having an agreeable aromatic odor.

THE BROMIDES IN RELATION TO TRAVELLING.—Dr. E. J. Tilt (*British Medical Journal*, vol. ii., 1881, p. 11) says that he has often enabled nervous and delicate women to travel long distances with comfort by telling them to take twenty-five grains of bromide of potassium, dissolved in a wineglassful of cold water, on going to bed, after travelling all day. A good night has enabled most of them to continue their journey the next day and on the following day by taking the same dose of the bromide on each successive night.

TREATMENT OF IMPETIGO "LARVALIS" BY IODOFORM.—Mr. Balmanno Squire (*British Medical Journal*, vol. i., 1881, p. 767) softens and removes the scabs by bathing them in warm water and soap, then dries the surface gently and dusts on a powder of equal parts of iodoform and starch (later iodoform alone), covers this with a layer of glycerin laid on with a camel's-hair brush, and repeats the operation every few hours. Rapid cure ensues.

ADMINISTRATION OF IODIDE OF POTASSIUM.—A good way to administer the iodide of potassium, says Dr. Webster, is in the form of a saturated solution, the dose being five drops in a little water three times a day after eating. The quantity should be increased to the extent of from one to three drops with each succeeding dose. One minim holds about a grain of the drug.—*New York Medical Record.*

TINCTURA FERRI CHLORIDI.—Dr. H. Hagar recommends that tincture of chloride of iron be mixed with simple syrup and then with milk, this mixture not affecting the teeth nor the usual styptic taste being apparent.—*Druggists' Circular.*

ANTISEPTIC VACCINATION.—E. F. Green (*Lancet*) suggests the use of carbolic spray during vaccination and the hermetic covering of the wound afterwards.

MISCELLANY.

SEA-AIR AND INFANTILE DIARRHŒA.—The Sea-Shore Home has just issued its annual report for 1880. Dr. Edward T. Williams, the physician in charge of the Home for several years, thus sums up his experience:

"1. Sea-air is *not* an infallible cure for infantile diarrhœa. Some cases will die under the best management.

"2. The vast majority of cases get well, if removed early and properly fed and cared for.

"3. After decided collapse and head-symptoms come on, death is the rule, recovery the fortunate exception.

"4. Bronchial and pulmonary complications are usually aggravated by the cold air.

"5. Not a few cases are made worse by exposure in stormy weather and the cold nights of the last of August and September; at these times both fires and extra clothing are needed, and some take cold in spite of them. Indeed, it has seemed to me that the autumnal diarrhœas are chiefly caused by cold and are unsuited for the sea-side."—*New York Medical Record.*

CASE OF POISONING BY BITTER ALMONDS.—A man thirty-eight years of age, having eaten nothing through the day, swallowed two handfuls of bitter almonds and a pint of beer. He shortly fell insensible, and when seen a little later by Dr. Green, of the Charing Cross Hospital, was collapsed, with gasping and labored breathing, cyanotic, with a hardly perceptible pulse, rapid and flickering, some dark mucus about his mouth; his jaws were fixed, teeth firmly clinched, pupils closed and perfectly insensible to light and touch, fæces passed involuntarily. The stomach-pump was used, and about a pint of thick brown fluid, containing a quantity of small white particles smelling strongly of hydrocyanic acid, was removed. The stomach was washed out, the battery used to resuscitate the nearly dead patient, and hot applications were made to the extremities. Later, inhalations of strong spirit of hartshorn were employed. The patient recovered.—*Medical Times and Gazette*, vol. i., 1881, p. 38.

READY METHOD OF PREPARING FOMENTATIONS.—Take your flannel, folded to the required thickness and size, dampened quite perceptibly with water, but not enough to drip, and place it between the folds of a large newspaper, having the edges of the paper lap well over the cloth, so as to give no vent to the steam. Thus prepared, lay it on the heated surface of the stove or register, and in a moment steam is generated from the under surface and has permeated the whole cloth sufficiently to heat it to the required temperature. This method is often very convenient and efficient where there is no opportunity to heat much water at a time.—*Michigan Medical News.*

THE REPORTING FIEND AGAIN.—Dr. John Ashhurst, of Philadelphia, in referring to some typographical errors in a recent report of his clinical lecture in the *New York Medical Record*, writes, "I wish to protest that I do *not* use, in gonorrhœa, injections of SIX OUNCES of acetate of lead to TWO OUNCES of water, nor do I attempt to cure CHANCRE with camphor and opium suppositories. I think *two scruples* to *six fluidounces* quite strong enough for the injection; and it is *chordee*, not chancre, the pains of which I attempt to relieve by the rectal administration of anodynes."

FLOWERY!—This is the way they begin the notes of cases in North Carolina: "Miss N. P., aged 19 years, of a nervo-sanguine temperament, with a heredity to melancholia on the father's side, a well-developed brunette, highly educated, wealthy, having been granted all the luxuries that fond and doting parents could give in an élite society, and adorned with all the graces that beauty and chastity [*sic*] could confer on the female. Menstruation began at fifteen years of age," etc., etc.

OBITUARY.—Dr. George Rolleston, Linacre Professor of Physiology in the University of Oxford, died on June 16 last, at the early age of fifty-one. His most widely known work is that on "The Forms of Animal Life."

ALLOCHEIRA is the name applied by Prof. Obermeister to the subjective error of locating an impression on the opposite side of the body to that where it is applied. Several cases are related of this curious affection. In one the man had syphilis, in another he had received an injury of the spine. In all cases the sensibility, as tested by the æsthesiometer, was normal.—*New York Medical Record.*

NOTES AND QUERIES.

IN Dr. J. H. Musser's remarks on primary cancer of the gall-bladder, in the *Times* for August 13 (p. 731), a transposition occurs which mars the sense. Under the microscopic appearances, the sentence should read, "Transposition from the catarrhal to the cancerous process," etc.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM AUGUST 21 TO SEPTEMBER 3, 1881.

WEBSTER, WARREN, MAJOR AND SURGEON.—Granted leave of absence for twenty days. S. O. 149, Department of the East, August 24, 1881.

MCCLELLAN, ELY, MAJOR AND SURGEON.—Relieved from duty in the Department of the Columbia, and to proceed to Louisville, Ky., and report by letter, upon his arrival there, to the Surgeon-General. S. O. 193, A. G. O., August 23, 1881.

WOODHULL, A. A., MAJOR AND SURGEON.—Relieved from duty in the Department of California, and to proceed to New York City and report by letter, upon his arrival there, to the Surgeon-General. S. O. 193, A. G. O., August 23, 1881.

BROWN, HARVEY E., MAJOR AND SURGEON.—Relieved from duty in the Department of Texas, and to proceed to New York City and report by letter, upon his arrival there, to the Surgeon-General. S. O. 192, A. G. O., August 22, 1881.

HUBBARD, VAN BUREN, MAJOR AND SURGEON.—The leave of absence granted him in S. O. 169, A. G. O., August 26, 1881, is extended eight months, with permission to go beyond sea. S. O. 193, A. G. O., August 23, 1881.

COUES, E., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for one month, to take effect when relieved by a medical officer, with permission to apply for three months' extension. S. O. 97, Department of Arizona, August 22, 1881.

BYRNE, CHAS. C., MAJOR AND SURGEON.—Relieved from duty at Angel Island, Cal., and assigned to duty as Post-Surgeon at Benicia Arsenal and Attending Surgeon at Benicia Barracks, Cal. S. O. 142, Military Division of the Pacific and Department of California, August 23, 1881.

DICKSON, J. M., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in the Department of the Columbia, and to proceed to New York City and report by letter, upon arrival there, to the Surgeon-General. S. O. 193, A. G. O., August 23, 1881.

KING, WM. H., CAPTAIN AND ASSISTANT-SURGEON.—To accompany Battery "I," Third Battery, to Yorktown, Va., and remain with it until further orders. S. O. 153, Department of the East, August 31, 1881.

WHITE, R. H., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for twenty days from 5th instant. S. O. 125, Department of West Point, September 2, 1881.

COWDREY, S. G., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in the Department of the Platte, and to proceed to New York City and report by letter, upon arrival there, to the Surgeon-General. S. O. 193, A. G. O., August 23, 1881.

ADAIR, GEORGE W., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for two months. S. O. 196, A. G. O., August 26, 1881.

SHANNON, W. C., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty at Fort D. A. Russell, Wyoming, and assigned to duty as Post-Surgeon at Fort Thornburgh (junction of White and Green Rivers), Utah. S. O. 81, Department of the Platte, August 22, 1881.

GARDNER, E. F., CAPTAIN AND ASSISTANT-SURGEON.—Upon being relieved by Assistant-Surgeon Bushnell, is relieved from duty in Department of Dakota, and will comply with Paragraph 3, S. O. 171, A. G. O. S. O. 150, Department of Dakota, August 17, 1881.

ROBINSON, SAMUEL Q., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty in the Department of Dakota, and to proceed to Boston, Mass., and report by letter, upon arrival there, to the Surgeon-General. S. O. 193, A. G. O., August 23, 1881.

POWELL, J. L., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Granted leave of absence for one month, to take effect as soon as the Medical Director of the department shall have completed certain inspection duty at Fort Stockton, Texas. S. O. 99, Department of Texas, August 13, 1881.

STRONG, N., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—To proceed to Park City, Utah, report for temporary duty to Commanding Officer of the troops *en route* to Fort Thornburgh, Utah, and remain on such duty until arrival of Capt. W. C. Shannon, Assistant-Surgeon, U.S. Army. S. O. 84, Department of the Platte, August 29, 1881.

ARTHUR, W. H., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Granted leave of absence for one month, to take effect from the date of return of Surgeon Forwood to Fort Omaha. S. O. 82, Department of the Platte, August 21, 1881.

BUSHNELL, G. E., ASSISTANT-SURGEON.—Relieved from temporary duty at Fort A. Lincoln, D.T., to take effect on his arrival at that post, and to proceed to Fort Ellis, M.T., and report to the Commanding Officer for duty at that post, to relieve Assistant-Surgeon E. F. Gardner. S. O. 150, Department of Dakota, August 17, 1881.

PHILADELPHIA, SEPTEMBER 24, 1881.

ORIGINAL LECTURES.

CLINICAL LECTURE ON CONGENITAL SYPHILIS.

BY PROF. JOHN A. LARRABEE, M.D.,
Hospital College of Medicine, Louisville.
Reported by A. H. KELCH, M.D.

GENTLEMEN,—I find to-day in the waiting-room an infant, aged six months, whose disease presents a fruitful theme for our discussion. It is a case of congenital syphilis. I do not propose, however, to go again over the ground of the various manifestations of syphilis in the child: these have been dwelt upon at sufficient length in my previous lectures. Moreover, in the surgical clinic you have become familiar with the unsightly sores, the primary and secondary manifestations, the deformities and paralyses which follow in the course of this terrible scourge in the adult. You have observed the success with which the primary and secondary manifestations have been treated, and no doubt you have placed opposite the names in your notes an asterisk pointing to a foot-note which reads, "cured."

You have been taught to look upon the period of childhood as typical of purity no less than of innocence. How instinctively do we recoil from the thought of a loathsome disease in the precincts of the nursery! Childhood is the greenhouse of human life,—the garden in which, nurtured by paternal care and warmed by filial affection, the tendrils which bind us to earth are put forth, and the tender buds of infancy unfold into rosy childhood life. But, alas! there are slugs in our finest roses,—there are worms at the root. The time has been when men, like the giant oaks, grew white with the frosts of many winters, and even in the period of decay were monuments of physical integrity. The men who die at the top are growing less, while the bald head and wrinkled features are noticed on younger shoulders. What is the matter? If you will excuse the expression, they are dying not from the top but at the root.

As practitioners in the field of infancy and childhood, we are gleaners: we see the stubble after the grain is cut, we see the imperfection of boasted cures in the weakened offspring.

The period of latency is often called a cure.

The time will come when your voices as physicians will be more potent to preserve the nation's integrity than the voices of senators. Wholesome regulation of matrimonial union will eventually force its way into legislative halls, for nations have been weakened and rendered impotent by syphilis. Let us, then, consider the case before us in regard rather to its practical bearing and interest to us as the child's physician, than as a useless discussion of certain theories which, if established, have no influence in arresting the progress of the disease. It is enough for us to know that at some very remote period of the history of our old planet a poison was poured from the phial of God's wrath which, like the subtile poison poured into the ear of the Danish king, has distilled its leprous dew through countless generations.

Into the palaces of the rich, into the hovels of the poor, into the families of crowned heads and those of abject slaves, it makes its way, for no wealth or poverty hath control over the passions of the human soul.

Protean in its manifestations, ever assuming a different form, never wearing the same countenance twice, and always present for evil, you will recognize how necessary it must be to keep always on the alert that you may detect it in all its varied forms.

A review of the cases presented at this clinic in the last seven years, gentlemen, will prove the statement that two-thirds of the children brought here in that time have shown the syphilitic cachexia. That is a sad commentary, gentlemen, on the virtue of our people; but it is nevertheless true. When you go out into the practice of medicine you will find that a large number of your little patients possess the cachexia which is here presented to-day.

At this stage of your studies it is not necessary that I should portray for you the various manifestations of the different forms of this disease in the order in which they occur. It is perhaps necessary and best that I should give you some idea of the probable forms you will meet. Preparatory to doing so, let me say I would have you, in the first place, sceptical—entirely so—as to any history that may

be given you by the patients or their friends in this matter. Now, see what we have here,—this prematurely senile, little old man, with shrivelled limbs and stunted growth, with a pale, sallow, anæmic countenance. I tell you, gentlemen, phenomenal manifestations are worth more than all the histories ever gotten by interrogation. They must not be entirely unheeded, however. You will have cases put to you in this manner: you will be told that a marriage has taken place, and that in a reasonable time afterwards conception has occurred, and you, perhaps, are consulted on account of some of the little troubles that arise in the course of this interesting period. You congratulate the parents on this happy culmination of affairs, but, behold, about the third month you are called to conduct an abortion. In the space of the same year you are called to attend a miscarriage, No. 2. You are called in the second year to attend a premature birth, No. 3. Next you are called to the patient at full term to deliver a child that dies!

Wherever you have such a history, such a chain of circumstances, let it at once arouse your suspicions of syphilis; and, while you medicate the mother and seal your mouth, remember you are fighting the syphilitic dyscrasia. It is an unusual thing for abortion to occur unless brought about by this cause or by another which it is here unnecessary to name. It is the earliest manifestation which will attract your attention, and it points to syphilis before birth. Next comes syphilis after birth; now it may make its appearance in various forms or stages. The case before us is one of syphilis manifesting itself in six weeks after birth. From previous experience I am confident, although I have not talked with this mother, that she will recognize the truth of the statements I am about to make. "Madam, this child was born full and plump?" Yes, sir. "But it had sore eyes?" Yes, sir. "Which by improper treatment has left one eye sightless?" Yes, sir. "Then it took a bad cold and never got well?" Yes, sir. "Then your child had an eruption?" Yes, sir. "It still has some of this eruption upon it where it first made its appearance?" Yes, sir.

Now, gentlemen, if all these other symptoms were absent from this case except this single ecthymatous pustule, I would say, syphilis,—syphilis in the tertiary stage. It was primary in the father of this child. The mother, as mothers generally are, is entirely innocent. The father here communicated syphilis to his offspring in the very act of procreation. Thus syphilis has been carried in this mother's womb during all the period of gestation. Do you suppose she has escaped this ordeal unscathed? No, indeed. In the third month of pregnancy this woman had sore throat; mucous patches, then in regular order the other manifestations of the disease, made their appearance. Inoculated into the ovum at the moment of conception, the disease had stamped its mark upon the fœtus, and all but destroyed the child.

Thus you perceive here one of the manifestations of syphilis; but these are not the only manifestations. This case, unrecognized, might have gone on until caries of the bones occurred, until the nasal septum was destroyed; and let me warn you, gentlemen, where these manifestations of a persistent disease of mysterious character occur in a child, watch it closely, and when there appears the development of an ecthymatous pustule or intertrigo, then treat the case as a case of syphilis, and see how many times your suspicions will be confirmed by the results of treatment. The first symptom generally is restlessness, and this precedes the eruptive stage; the infant is never still, it is constantly in motion except when asleep, and it sleeps in the daytime and cries all night. It suffers the torture of pain which it cannot express.

How old must the child be before you can dismiss from your mind the idea of inherited syphilis? I answer, As old as Methuselah. The manifestations of the disease may appear at birth, at the fifth year, in adult life, at any time along the road. But take this as a rule, the later the manifestation the milder the cachexia.

Before these external manifestations appear, the oculist may look into the eyes and detect there the characteristic signs of its presence. The dentist, as he extracts affected teeth, sees the serrated edges of the incisors, and looks back into childhood and says, This is syphilis; and thus I might go on, gentlemen, until the hour had passed, enumerating the channels leading to the discovery of this cachexia; but the object of my lecture will have been obtained, which is to impress upon you, once and last, the necessity for keen and careful examination in infantile dis-

eases that do not readily admit of classification. Having made the diagnosis in this case, our minds are settled as to its cause. I have not inquired into the family history. I do not care to. I know I am correct. The proof of the pudding is in the eating; the confirmation of my assertions is to be found in the results of treatment.

That treatment shall be mercury and iodide of potassium. Specific diseases require specific treatment; and let me impress you with the fact that the best way to give mercury is to rub it in. If you give it by the mouth, in a few days you must stop on account of its effects upon the bowels; but rub it in, and you will soon be gratified to see these manifestations disappear like snow before a summer sun. The ecthymatous pustule will leave a mucous scar, the child will sleep all night and all day, and finally this will cease. Then is the syphilis cured? No. Then how long will you treat a case of this kind? Not long at a time, but you will watch it and treat it occasionally when the manifestations appear, for, I was about to say, during a natural lifetime. You are never to let such a case pass out of your observation.

What else shall you do? Nothing. This treatment will be successful if properly pursued. Therefore, we close to-day one of the most important subjects it were possible to bring before you.

ORIGINAL COMMUNICATIONS.

A CASE OF CANCER OF THE PANCREAS WITH SECONDARY DEPOSIT IN THE LIVER.

BY J. M. ANDERS, M.D.

MR. J. G., æt. 56, a saw-maker, had been ill four months before coming under my care. He stated that there was no traceable hereditary taint. His illness began with eructations and other dyspeptic symptoms associated with flatulence and constipation. About two months later (or two months before I saw him) he experienced pain in the epigastric region, which gradually increased as the case progressed, and a little later jaundice appeared rather suddenly, which remained permanent. When first seen by me (November 19, 1880) there was intense jaundice, marked emaciation and weakness, and severe pain in the epigastric and right hypochondriac regions, coursing downward toward the right groin and upward to the shoulder, and frequently around the body laterally to the back. The pain was of a stabbing character. There was nausea, but no vomiting; the mouth was parched, tongue dry and heavily coated with grayish-yellow fur; appetite poor; bowels loose, from four to six passages daily; stools light in color, containing considerable ropy mucus, and there was entire absence of biliary coloring-matter. Upon physical examination of the abdomen, I found slight tympany, with a great deal of gurgling. Liver-dulness extended about half an inch below the costal border, and in the region of the gall-bladder a small, smooth tumor could be felt on palpation, reaching about one and a half inches below the normal limit of liver-dulness. This at the time was regarded as a distended gall-bladder. No nodulation of the liver could now be detected. There was marked tenderness over the epigastric region, strongly suggesting the presence of local peritonitis. The most active remedies failed to stimulate the liver to secretion or to change the color of the alvine evacuations, and anodynes failed to afford relief from the intense suffering. As time went on, the whole aspect of the case grew worse, the pain, weakness, and emaciation becoming more pronounced.

February 1, the tumor referred to had become larger and more superficial, extending about two and a half inches below the ribs. It was firm to the touch, but scarcely at all nodular. The following phenomenon was observed in this connection: with the patient lying on his back and breathing naturally, the walls of the abdomen were seen to glide over this tumor, which was stationary, upward during inspiration and downward during expiration. A small nodule could now be felt about the middle of the left lobe of the liver. The patient was at this period sent to Tacony to live with a daughter, and I did not again see him until May 20, when I was called. At that time he was so reduced in strength as scarcely to be able to sit up in bed, and his general condition indicated approaching dissolution. The only change in the abdominal signs was a slight increase in the size of the tumor, which was still perfectly fixed, and the walls of the belly during inspiration glided over it, as before described. It was found that even forced breathing did not in the slightest degree influence the site of the growth. Death occurred June 10, 1881.

The autopsy was made thirty-six hours after death, Drs. William R. Cruice and Markwardt being present. The body was extremely emaciated. Heart and lungs normal in appearance, except colored with bile; pleura non-adherent. Spleen healthy-looking. The stomach was collapsed, and its coats natural, except a few patches of velvety redness of the mucous lining near the pyloric extremity. There was evidence of chronic peritonitis, particularly of the gastro-hepatic omentum. Coils of intestines free. Kidneys about normal in size; the right, however, was

engorged with venous blood. Capsule not adherent. The liver was slightly enlarged, and its parenchyma intensely stained with bile; capsule normal. On the under surface of the left lobe, at the anterior border, there was a small cancerous nodule; the right lobe showed half a dozen similar nodules, about the size of an English walnut, and extending along its under surface near its anterior edge.

The biliary ducts were all obliterated, and not even a trace of the ductus communis could be found. The gall-bladder, however, was about normal. The tumor, which had been felt through the walls of the abdomen, proved to be the head of the pancreas, which was the seat of cancerous change and was greatly enlarged, being at least three times its natural size, coming forward beyond the lower border of the liver, and extending to the right to the middle of the right lobe of the liver. Its consistence was only moderately firm, and in spots very friable. It was nowhere adherent. Body of pancreas somewhat enlarged, but free from cancer. Duct patulous.

Remarks.—Judging from the extraordinary size of the head of the pancreas and the amount of change there found, and from the fact that so few cancerous nodules were found in the liver and none at all in other organs, it is probable that the pancreas was affected primarily. The circumstance that the head of the pancreas attained such enormous dimensions without involving the duodenum or other adjacent organs by contiguity deserves note. It is generally held at the present day that the pancreatic secretion moistens and liquefies the contents of the bowels. The view doubtless receives confirmation from the present case, since it will be remembered that the pancreatic duct was patulous, and the body of the gland enlarged or tumefied, but apparently free from carcinoma: hence under these circumstances there probably was an abundant secretion of pancreatic juice, producing the looseness of the bowels. Physiologists agree that the bile is the chief natural laxative in health; but perhaps this teaching will need to be somewhat modified when we arrive at a further state of knowledge in regard to the action of the pancreatic secretion on the bowels and their contents.

One reason for reporting the present case is to show that the diagnosis of cancer of the pancreas is sometimes a difficult task. Some writers, among them Da Costa, think the disease can always be distinguished. The cardinal symptoms, according to these writers, are constipation, nausea, vomiting, and pain. But, as will have been observed in our patient's case, there was diarrhœa during nearly the entire course of the disease, and at no time was there vomiting.* In addition to these deviations from the general rule, the implication of the liver and the interference with its functions rendered a positive diagnosis during life almost out of the question. As a diagnostic sign, however, the immobility of the tumor already referred to deserves special prominence as excluding distention of the gall-bladder or growths of the liver and parietes; but this symptom could only be of service in thin subjects and with a tumor of considerable size.

THE LOCATION OF BULLETS BY ELECTRICITY.

BY H. NICHOLS WADSWORTH, D.D.S.,
Washington, D.C.

I DESIRE to put on record a discovery made in 1875, by which lead can be located in a living human subject by means of electricity. I quote from my article of that date, forwarded for publication to Dr. J. W. White, editor of the *Dental Cosmos*, of Philadelphia, the receipt of which he acknowledged under date of June 14, 1875, which letter of acknowledgment now lies before me; also the letter of acknowledgment of Dr. J. B. Hunter, of the New York *Medical Journal*, dated June 12, 1875, which letter acknowledging the receipt of my article also lies before me.

"I have discovered by a series of experiments with the electro-magnetic battery that a current of electricity thrown through the human living body gives rise to great uneasiness when passing through lead, amounting to absolute pain if the power of the battery is increased and the current through the lead is continued any length of time.

"Having in my profession but limited means of verifying or extending the experiments upon this most interesting subject, it must be left for extension in the hands of the surgeon, who so frequently probes in vain for the leaden messenger of death,—to the surgeon, whose field of observation is so much more extended, and who has the material for experiment so much more abundant."

* Authors disagree as to the proportion of cases in which there is vomiting.

Wardell (Reynolds's System of Medicine, p. 421) states that diarrhœa is present in about one-third of the cases.

The above extracts from my articles, with the date, and the date of the editors' replies, are evidence of the time of the discovery, and its presentation to medicine and surgery.

My first experiments were upon my own person, having had the misfortune to receive a full charge of shot from a friend's gun, whilst woodcock-shooting. Each pole of the battery should have a wet sponge attached. Placing one pole at the base of the brain, or base of the spinal column, a distinct feeling of uneasiness is experienced when the other pole is placed so as to pass the magnetic current of electricity through the lead, and this uneasiness is quickly rendered decidedly painful if the current is continued long and increased in power, although that increased power will give no uneasiness when applied on other parts of the body.

My second series of experiments were made upon an old soldier, kindly sent to me by Dr. Norris, U.S.A. This ball was lodged four or five inches from the spinal column, and a little below the fifth rib, as near as I can remember, and could be felt with the hand. Mr. McGill says, "The feeling was of a stinging character," and when a stronger current was passed through the lead "caused me to jump in my chair."

My third experiment was with Colonel Morrow, U.S.A., of Gen. Sherman's staff.

Dr. Basil Norris, Surgeon U.S.A., says of the ball in Colonel Morrow's case, "The point of entrance of the ball was near the groin; the current located it on the inner aspect of the thigh near the knee."

Colonel Morrow says, "I am satisfied your location is a correct one."

My fourth experiment was on John Tehan, at the Soldiers' Home, by courtesy of Dr. Huntington, U.S.A., in charge. "The ball in this case," says Dr. Norris, "entered about the centre of the right gluteal region; the current located the ball near the hip-joint." Mr. Tehan says, "You found the most painful point in your experiment on me."

In the second and the fourth or last case the current was longer continued and the power of the battery increased so as to prove beyond a doubt the presence of the lead; the patients being strong men. Dr. Norris says, "Your experiments with the electro-magnetic current to find a bullet lodged in the living body—as witnessed by me—were successful in defining a painful or burning sensation supposed to be produced by the presence of the ball."

Dr. D. L. Huntington, Surgeon U.S.A., and acting-surgeon in charge of the Soldiers' Home, through whose courtesy I performed the experiment at Soldiers' Home Hospital in presence of himself and Dr. Norris, says, "I have no hesitation in saying that I think your experiments on August 7, on the person of Tehan, an inmate of the Home, demonstrated the presence of a metallic body at or about the region between the greater trochanter of the right femur and the tuberosity of the ischium." "The presence of this body was repeatedly evidenced by a sharp pricking pain, with some shock, when the magnetic current was made to traverse the region; similar effects were not produced under similar manipulations on other regions."

In all these experiments the lead was encysted, the wounds having occurred more than twenty years previous to this date.

In recent wounds I have no doubt the most gentle current would indicate the presence of lead, and with a little care the location could in most cases be reduced to the diameter of one inch, which would be sufficiently accurate for the surgeon's purpose.

Having obtained a pretty accurate knowledge of the location by the experiments, the poles of the battery should be brought as near the lead as possible, and the current thrown through it in as direct a line as possible.

ACUTE POISONING BY ALCOHOL.

BY J. H. MUSSER, M.D.

J. S., æt. 4 years, white, male; mother keeps a small grog-shop. At 4 P.M. on the 27th of July of this year she found her little son behind the bar, draining a tumbler of its contents. At once she saw that he had taken whisky of an uncertain quantity, though not less than two ounces. In fifteen minutes he was stupid, and in fifteen more he was unconscious. According to a neighbor's statement, at 6 P.M. "he was like death,"—pale and cold, with a cold, clammy perspiration on face and body, with an excessively frequent and very feeble pulse, and breathing heavily.

He was placed in a hot mustard-bath and rubbed with whisky. Reaction set in in an hour. Not regaining consciousness, however, I was sent for.

I saw him at 11 P.M., in the following condition. Skin hot, dry, red; extremities warm; temperature, 102½°; respiration, 44, not stertorous; pulse, 140, quick and small; completely unconscious, conjunctivæ insensible, pupils contracted and insensible to light; general anæsthesia. After considerable effort emesis was brought about; food and a large quantity of a pink-colored mucus and fluid were discharged. The breath and the vomited matter were of a strong alcoholic odor. After vomiting he could be slightly aroused, but consciousness returned gradually, and he did not recognize his mother until 6 A.M. of the next day. That day, a foul tongue, no appetite, and an irritable temper were the only symptoms noted.

From what I subsequently learned, the boy took fully four ounces of spirit. The case illustrates the law that liquors are more readily borne in early than in later life. It is sad to relate that not only has the boy a nervous system that can bear the blows of stimulants, but also one that craves them. About a year previous to this occurrence he took, clandestinely, sufficient liquor to stupefy him for some time. Often he has been tipsy. While attending his mother in illness, when the boy was but three years old, I was horrified to find him smoking a cigar, the strength of which would have made me succumb. Smoking is a daily luxury with him. When one considers the character of the whisky and cigars kept at these corner grog-shops, to express surprise is mild exclamation.

TINCTURE OF CONVALLARIA IN PAROXYSMAL CARDIAC PALPITATION.—Semonowski reports a case of nervous paroxysmal palpitation of the heart, associated with pain radiating into the left arm, occurring in a pale, nervous woman of thirty years. All kinds of remedies had been employed without benefit, until Botkin advised the administration of tinct. convallariæ majalis, in ten-drop doses, four times a day. In the course of a week all the subjective symptoms had subsided, while a previously demonstrable moderate dilatation of the right ventricle and of the left auricle diminished so far as to leave only slight dulness on percussion in the upper part of the left parasternal line.—*St. Petersburger Medicinische Wochenschrift*, May 7, 1881; *New York Medical Record.*

NOTES OF HOSPITAL PRACTICE.

EPISCOPAL HOSPITAL.

CLINICAL SERVICE OF DR. LOUIS STARR.

Reported by CHARLES M. SELTZER, M.D., Ex-Resident Physician.

PROGRESSIVE PERNICIOUS ANÆMIA—TRANSFUSION PERFORMED—BLOOD-CELLS COUNTED WITH THE HÆMACYTOMETER.

AS long as the origin of the blood-corpuscles remains mystified in theories and ill-defined facts, so long will our knowledge of diseases of the blood remain incomplete, and our treatment unsatisfactory or else of no avail. The case about to be related is especially interesting on account of the numerous and combined causative agencies, and the completeness of the clinical features.

On September 15, 1880, G. C., Irish, laborer, æt. 40 years, was admitted to the Episcopal Hospital, said to be suffering with chronic diarrhœa. His former illnesses were bronchitis and diarrhœa while in the army in 1864, and intermittent fever contracted in the swamps of North Carolina about the same time: the latter continued at intervals until about three years ago. He had had gonorrhœa, but no history of syphilis could be obtained. He had been employed for a long time in lead-works, but had never had any signs of poisoning.

The onset of his present illness was dated back two years, at which time he began to feel weak and languid and had to pass his urine frequently and in small quantities. Thirteen weeks before admission diarrhœa commenced, and it continued with increased severity, so that when first seen he was profoundly anæmic; the countenance pale and with a slightly yellow tinge; conjunctivæ pearly; tissues generally flabby; slight œdema of legs and feet; tongue thick, flabby, and coated; bowels very loose, the passages being light yellow, thin, and containing some white flakes. There was no vomiting or cough, but there was great prostration. A more minute physical examination showed the lungs healthy; the apex-beat of heart in normal position, with some irregularity, an apex systolic murmur, heard also at base and in the axillary line; increased dulness in liver and splenic regions; some pain in the lower part of the abdomen; urine of light-yellow color, sp. gr. 1012, no albumen or

sugar. The blood was examined with Dr. Gowers's modified hæmacytometer, the result being: number of red corpuscles per cm., 745,000; number of white corpuscles per cm., 5000.

After this detailed examination the case was diagnosed one of progressive pernicious anæmia. His treatment was quinine, iron, and punch by the mouth, and opium by the rectum, upon which he seemed to improve until September 19, when he had severe pain in the abdomen, followed by short attacks of diarrhœa, and on September 25 the diarrhœa became continuous. The blood-count at this date was: number of red corpuscles per cm., 755,000.

September 29.—Had a slight chill in the morning; the respirations became rapid; vomited several times. Dulness not nearly so marked in the splenic region, but the liver-dulness about the same.

September 30.—Vomiting and diarrhœa continue; passages contain shreds of mucus, and are greenish yellow. Bismuth. subcarb. gr. xx and pulv. ipecac. gr. iij every three hours, and an ounce of lime-water to every three ounces of milk, were ordered, and the former treatment stopped.

October 1.—Vomiting, diarrhœa, and pain in the lower part of the abdomen almost continuous. Sodii bicarb. gr. x, instead of the pulv. ipecac., were added to the bismuth; a cantharidal blister was placed on his epigastrium and afterwards dressed with morph. sulph.; milk f℥ij and lime-water f℥i were given every two hours, alternately with milk punch f℥ij.

October 4.—Vomiting checked for the past two days. Has had a very constant and annoying hiccough since yesterday.

October 7.—Became mildly delirious; diarrhœa and vomiting returned, and a few ecchymotic spots appeared. The hiccough was stopped by hypodermic injections of morphia and atropia.

October 9.—Had some coffee-grounds vomiting. Blood-count showed 785,000 red corpuscles per cm., 9000 white corpuscles per cm.

It was decided to perform transfusion, and accordingly at noon Drs. Charles T. Hunter and J. H. Packard injected f℥vss of defibrinated human blood into the left median basilic vein. The patient seemed cold afterwards, but soon warmed up and felt more cheerful. A blood-count showed 1,245,000 red corpuscles per cm., 6500 white corpuscles per cm.

During the afternoon his respirations became more difficult, and his pulse very feeble. Tinct. digitalis ♏ x were given hypodermically, and ammon. carb. gr. x every two hours by the mouth; hot water and whisky were substituted for the milk punch, which made him sick at his stomach. He sank into a wandering delirium during the night, from which he rallied slightly after hypodermic injections of ether.

October 10.—Death took place at noon, just twenty-three hours after transfusion.

The temperature during the last three weeks was normal in the morning, and usually rose two degrees in the evening, until the last two days of life, when it fell slightly below normal. The pulse ranged wildly and irregularly between 84 and 112, being slightly accelerated in the evenings.

Autopsy.—Body much emaciated; subcutaneous adipose tissue scanty.

Brain.—Marked sub-arachnoid effusion, greatest over convexity posteriorly. Vessels at base empty. Brain-tissue anæmic, very few vascular points to be seen on section. Lateral ventricles empty.

Lungs.—Left: numerous fine, readily broken-down bands of plastic adhesion at apex and over posterior and lateral surfaces; lower lobe somewhat congested and œdematous.

Right: a few ounces of serum in pleural sac; a few isolated bands of pleuritic adhesions; upper and middle lobe œdematous, lower lobe quite congested and very œdematous.

Heart.—Flabby; valves normal; small ante-mortem clot in the right ventricle.

Liver.—Normal.

Spleen.—Slightly more firm than usual; adherent at several points to the left abdominal wall, and the capsule thickened at these points.

Pancreas.—More firm than normal; at several points over its surface minute white marks were seen about as large as pins' heads.

Kidneys and Supra-renal Capsules.—Normal.

Intestinal Canal.—Stomach: mucous membrane thickened, much congested near pyloric orifice; over remainder of mucous membrane there were several isolated patches of ecchymosis. Large

and small intestines reduced at least one-third in calibre. The mucous membrane of small intestines appeared to be thin; the glands of Peyer were ill developed, and small isolated patches of ecchymosis were observed.

The mesenteric glands were smaller than usual. The mesentery was loaded with fat, the quantity of fat being much greater than in the subcutaneous areolar tissue.

The following is the report of microscopical examination made by Dr. J. H. C. Simes:

The portion of the bone medulla removed from the shaft of the humerus is of a dark-red color and soft consistence. From a microscopic examination it is found to consist entirely of cells: no fibrous tissue in any appreciable amount could be detected. Neither fat-vesicles nor fat-drops are present. The cells vary in size from $\frac{1}{3500}$ of an inch to $\frac{1}{500}$ of an inch and even larger. Many of the smaller elements are free nuclei, made evident by carmine-staining; others show the characteristics of lymph cells or white blood-corpuscles; others, having the same size as the latter or somewhat larger, are nucleated, the nucleus placed nearer the periphery rather than in the centre of the protoplasm, and the latter is slightly colored yellow; these cells possess all the appearances of nucleated red corpuscles of fœtal blood; others contain a nucleus relatively small to the amount of protoplasm—epithelioid in type; and, finally, large nucleated masses of protoplasm—myeloplaxes.

A section of the small intestines and of a mesenteric gland were examined microscopically: they presented no marked abnormal change. The heart and liver were normal. The spleen contained an increased amount of fibrous and connective tissue.

In the etiology of this disease especial interest has of late years been centred in the changed condition of the alimentary tract. From an elaborate study of three cases, Pepper* has concluded that the primary and essential lesion appears to be an affection of the chief blood-making tissues, spleen, lymphatic glands, marrow of the bones, causing defective elaboration of the blood; and although this may be true in some cases, yet in others one is inclined to make them of secondary consideration to the thickened and congested condition of the mucous membrane of the stomach, and the marked atrophy of the intestines and mesenteric glands, which supply ample cause for the gradual but fatal inanition. Fenwick† gives some very interesting cases in which atrophic changes in the alimentary tract alone were causes of fatal anæmia; and when we bear in mind that both the quantity and the quality of the blood depend mainly upon the quantity of nutriment dissolved and absorbed by the digestive tract, we have quite a comprehensive view of cause and effect in these cases. These atrophic changes seem to have been the most destructive in the foregoing case. Doubtless the irregular attacks of intermittent fever extending over twelve years constituted an active element in the downward course of the patient; but, as there were no acute symptoms of the disease itself within the last three years, but a minor portion of the cause can be assigned to it.

Workers in lead frequently present themselves as marked cases of anæmia, and they may continue to a fatal termination; but the absence of the blue line on the gums or of localized paralysis left but slight suspicion of this cause in the foregoing case.

When used by a competent person, the hæmacytometer is very accurate and satisfactory in diagnosing and noting the progress of these cases. Six months previous to this case the lowest blood-count on record was made on a similar patient in the same hospital, there being but 525,000 red corpuscles per cm.‡

* American Journal of the Medical Sciences, October, 1875.

† On Atrophy of the Stomach and on the Nervous Affections of the Digestive Organs. London, 1880.

‡ Observations with the Hæmacytometer. By F. P. Henry M.D.

LOUISVILLE CITY HOSPITAL.

CLINICAL SERVICE OF WILLIAM H. WATHEN, M.D., OF THE KENTUCKY SCHOOL OF MEDICINE.

Reported by A. H. Kelch, M.D.

LACERATION OF THE CERVIX UTERI.

(Continued from page 621.)

GENTLEMEN,—At the conclusion of my last lecture I was speaking of the treatment of laceration of the cervix when this condition is detected immediately after its occurrence. The purport of all

treatment is the union of the lacerated edges; but in the event the woman continues to suffer, and the uterus fails to undergo the process of involution, the probabilities are that the union is not complete, and that her condition will not be benefited by anything short of another operation, and by the proper steps she may be entirely cured. Yet too much has been expected of this operation, and too little attention has been paid to the method of performing it, and to the preparatory treatment: hence the objections that have been urged by some writers. Every case of laceration of the cervix is benefited by preparatory treatment, and especially those cases where there has been extensive cellulitis or peritonitis, for so long as there remain any inflammatory deposits or adhesions binding the uterus down, an operation will most certainly fail to do any good, and will be pretty sure to re-establish the original inflammation. The enlarged uterus, by traction on the connective tissue, so obstructs the circulation as to cause congestion not only of the organ itself but also of the surrounding tissues.

The patient's general health should be well attended to, and if there is a tendency to constipation give general laxatives containing small doses of aloes to stimulate the torpid circulation in the pelvic organs. To give tone to the vessels and relieve the congestion, inject a gallon of hot water into the vagina twice a day until all tenderness on pressure against the vaginal roof or uterus has disappeared. This may be hastened by the frequent application of iodine, or an occasional blister upon the abdomen over this region. If the previous inflammation has shortened either broad ligament, the weight of the uterus will be thrown upon it when the woman assumes the erect posture, and this as a source of irritation frequently keeps up an old cellulitis. This is best relieved by a lever pessary. If the pessary causes pain where it comes in contact with the thickened broad ligament, it may be narrowed at that part sufficiently to relieve pressure. If the lever pessary cannot be worn, some other form that will support the uterus or not cause pain may be tried. It is customary before introducing the pessary to antevert the uterus, but this is unnecessary, as the uterus can be more easily and with less injury anteverted by means of the pessary itself. It should be so shaped as to hold the uterus in this position, and by this means the lips will be kept together and a source of irritation removed. If the perineum is lacerated, the pessary must be held in position by a T bandage.

If the parts are so tender that a hard pessary cannot be worn, the lips may be kept together by introducing a pledget of cotton wet in glycerin or bromo-chloralum in front of and behind them, or by an inflated india-rubber ring pessary, which, if introduced with the uterus anteverted, will hold the lips together.

In addition to this treatment, erosion or ulceration should be treated with local applications twice a week, such as Churchill's tincture of iodine, carbolic acid, or some astringent or weak caustic. If the granulations bleed freely when touched, it is well to apply occasionally Monsel's solution of persulphate of iron. Before making any such application, the lips should always be well closed, and it is best to put the woman in the horizontal position for some hours afterwards. If she cannot remain in bed, it is a good plan to antevert the uterus and hold the lips together by forcing a pledget of cotton against the anterior lip. Sometimes in double laceration there is a cicatricial band around the cervix, which, if associated with cystic degeneration of the mucous follicles, nearly strangulates the lips and causes a condition similar to paraphimosis. This condition must be relieved by puncturing the cysts with a lance-shaped knife, by stabs in every direction over the whole of the everted surfaces, followed by a thorough application of Churchill's tincture of iodine. This treatment should be repeated every week until the lips are reduced nearly to their proper size and all erosion has about healed. If these precautions be taken, and the operation be properly performed after the different sources of irritation have been removed, the involution will be rapid, and the woman will regain her usual good health.

Before beginning the operation, inject a gallon of hot water into the vagina, which will contract the blood-vessels and prevent profuse hemorrhage. Place your patient on her left side, or on her back, and expose the cervix with a Sims speculum. Dr. Emmet has devised a uterine tourniquet to enclose the cervix above the laceration to

prevent hemorrhage, but the previous injection of the hot water will make it unnecessary to use this instrument unless the cervix is very soft, in which case there is a greater tendency to bleeding. If there has been no cellulitis, the cervix may be drawn down near the vulva; but otherwise it would be a dangerous practice. In the first instance have an assistant to bring the lips together with tenacula, and denude the surfaces on each side of where you intend to make the external os; then introduce a strong iron or silver wire through both lips, on each side, by which the assistant may pull the cervix low in the vagina and hold it while you denude the parts down to the forks of the laceration. You can use the knife or scissors, but where there is a tendency to hemorrhage I prefer the knife, as it makes a smooth cut surface and permits more perfect union by adhesion. When the rent extends to or above the vaginal junction be careful to denude the fork of it superficially, or you may divide the circular artery. If the hemorrhage is profuse, and cannot be arrested by the application of ice or the injection of hot water, it can be partially controlled by traction upon a suture introduced under the base of the rent, or completely so by uniting the suture. Always denude the under side first, so that the blood will not obscure the view. The undenuded portions on each lip should widen gradually from the uterine canal towards the external os, and when brought together they should correspond. This will make a new canal through the cervix, trumpet-shaped, but, as the diminution in size is greater in the neck than in the body, this new canal will become of uniform diameter.

The width of the undenuded surfaces must be in proportion to the amount of hypertrophy, and, since the enlargement is greater at the ends of the lips than at the bottom of the laceration, the canal must necessarily be trumpet-shaped.

If in a double laceration the effort of nature to fill up the fissure by granulation has caused the rent to be filled with a dense cicatricial plug, which prevents perfect apposition of the edges or interferes with healthy circulation, it should be dissected out to its base in a V-shaped piece. Again, if the rupture of cysts along the mucous membrane of the canal or on the vaginal surface causes contraction and converts the former flat edges of the flaps into convex surfaces that cannot be brought into close contact, they must be shaved down until coaptation can be made perfect. It is even sometimes better to partially excavate the projecting surface, so that the sides of the flaps may be put in perfect contact when the sutures are united. When the cervix is lacerated in two or three or more sections, the operation of denuding each cleft and uniting the flaps together would often result in failure, as the traction in opposite directions would cause the sutures to cut out, and the uneven development of the flaps makes it difficult to coapt the surfaces properly. In the bifid form, if we cut out a V-shaped segment and bring the freshened surfaces together, the cervix and canal will be restored to normal size. If the cervix is lacerated into three or more sections, the operation of cutting out a segment on each side and uniting the edges as in double laceration will generally be successful.

The most difficult part of the operation is thought to be the introduction of the sutures. If the tissues are soft, the best needle is a round one, which makes an opening but little larger than the suture and causes no hemorrhage; but where the tissues are indurated, Sims's lance-pointed needle is less likely to break and can be introduced more easily. From two to four silver sutures should be introduced deeply on each side through both lips and united by twisting on the pressure of a shot. The denuded edges should be perfectly approximated, and the sutures should not be drawn too tightly, or they will strangulate the parts and cut out. If there is much hemorrhage, the first suture should be introduced into the tissue beneath the fork of the rent. The sutures must be introduced upon both sides before uniting any of them. There is occasionally hemorrhage from the track of the suture, which can be promptly arrested by the injection of hot water or a saturated solution of alum. It is more difficult to operate on a laceration of one side than upon both, for the reason that it is troublesome to denude the angle and free it from cicatricial tissue: however, if the flaps are held apart by an assistant with a double tenaculum, the obstacles may be to some extent overcome.

The after-treatment consists in keeping the woman in bed for two weeks and in drawing the water for a few days. It may then be passed on the bedpan, or, better, on the hands and knees, in order that

urine may not get into the vagina and come in contact with the cervix. The diet should be nutritious and easily digested, and the bowels be allowed to move daily. After the second day the vagina should be washed out daily, morning and night, with tepid water, preferably carbolized. The sutures should be removed from the seventh to the tenth day. Great care must be exercised in withdrawing them, lest the delicate union between the edges be broken apart. It is best to remove the suture nearest the vaginal junction first; and if the union is not complete, the others may be left in a few days, until the ununited portion may heal by granulation.

The uterus, which should always be anteverted before the operation, will generally remain so while the woman is in bed; and if it tends to become retroverted when she gets up, it should be held in position by the proper pessary, but it must not be so large as the one used before the operation. If this is not attended to, the traction on the lips of the vaginal walls may separate the united edges and reproduce the original trouble. If the vagina is abnormally enlarged or the perineum ruptured, an operation for the relief of these conditions should be performed as soon as the patient has sufficiently regained her health and other circumstances will admit of it.

TRANSLATIONS.

Gangrene of the Skin of Trophic Origin.—At a recent meeting of the Société de Biologie (*Le Progrès Médical*, 1881, p. 385), MM. Leloir and Dejerine showed a patient suffering from a peculiar affection so rare in France that no previous case has been reported. It was that of a young girl born of nervous stock, her mother being neuropathic and a sister choreic. Three years previously she had begun to display, without previous cause so far as known, patches of superficial gangrene on the cheeks; the eschars separated, and were followed by linear cicatrices in which keloid developed. During three years similar patches showed themselves on the trunk and on the arms. The lesions first manifested themselves with a pricking sensation, a little redness, and a notable diminution of sensibility at the affected point. Within nine hours a whitish patch, not preceded by a phlyctena, formed, and this went on to superficial sphacelation. Later it became brown, detached at its edges, thrown off, and gave place to ulceration, and finally to a cicatrix, when the anæsthesia which had been observable about the borders disappeared. Every fifteen days a fresh eruption of patches occurred. For three weeks previous to the presentation of the patient she had been taking atropia and chloride of gold under Dr. Vulpian's direction, and her condition seemed to be improving.

Treatment of Chorea by Arsenic.—M. Siridey (*La France Médicale*, 1881, p. 782) has used this remedy for a long time. He employs the *liqueur de Boudin*, which is nothing more than a solution made by boiling for a quarter of an hour one part of arsenious acid in one thousand parts of water. The dose varies, of course, according to age. For a child from six to ten years of age, the following formula may be employed:

℞ Boudin's solution, gr. x ad xij,
Syrupi acaciæ, ʒij.—M.

This dose should be taken so frequently that two fluidounces are ingested in the course of twenty-four hours.

By this method complete tolerance is established; but, as the disease is only brought under control when the system is saturated with arsenic, the daily amount of Boudin's solution should be increased by about half a drachm daily until nausea, vomiting, and diarrhœa show themselves. The use of the solution is then suspended for a while, and then recommenced, but with longer intervals. It is at this point in the treatment that the muscular contractions cease. A cure is generally obtained in four to five days; rarely a week is required; M. Siridey has observed it on the third day. The dose of the medicine is then gradually diminished. It suffices to maintain the condition of nausea a single day in order to obtain a definitive cure.

Hydrops Articulorum Intermittens.—Pierson (*Deutsche Med. Wochens.*, 1881, No. 13; *Cbl. f. Chir.*) gives the case of a child, eleven years of age, who had suffered during two years with a swelling of the various joints, appearing suddenly and without regular type. The intervals were at first of several weeks' duration, but gradually became shorter, while the attacks were of longer duration. Exceptionally two joints suffered at once, and even the

ankle- and wrist-joints. The child was otherwise well nourished, always free of fever, the general condition only affected by pain. In contrast to the sudden appearance of the enlargement was its gradual diminution. Electro-cutaneous sensibility over the affected joints was markedly increased, while in acute articular rheumatism this is diminished. The galvanic current alone gave relief. Arsenic was given at the same time.

NOTE ON A PECULIAR PLEURITIC FREMITUS AS A DIAGNOSTIC SIGN OF PULMONARY AFFECTIONS OF AN ARTHRITIC CHARACTER. —At a recent meeting of the Académie de Médecine (*Bull. de l'Acad. de Méd.*, June, 1881) M. E. Collin read a paper on this subject, written by M. Woillez. The author, after speaking of recorded instances of pulmonary complications with arthritic affections, goes on to fill up a gap left by previous authors, by describing a pleuritic rubbing which is a sign of pulmonary rheumatism. He tries to show that it is possible to diagnosticate any chance affection of the chest which may occur, not only during the rheumatismal pyrexia, but aside from any attack, in an individual suffering from the arthritic diathesis. He asserts that the lung is affected by the time the painful symptoms, though slight, are manifested in the shoulders or the upper extremities; and such is the diagnostic value of the sign which he attributes to rheumatism that he considers it the index of arthritism not only during the rheumatic pyrexia, but as a unique sign of rheumatism in patients previously exempt from any sign of the disease.

The sign is as follows. Imagine a perpendicular line drawn from the axilla to the base of the thoracic cavity. In this region, which is not always ausculted by physicians, there may be habitually heard, in pulmonary affections of an arthritic nature, at the junction of the middle and lower thirds, a sound which M. Collin has named "arthritic rubbing," and which resembles the crepitant râle of the first stage of pneumonia. It is only produced during the act of inspiration, and in order to be heard the act must at times be prolonged. It may be observed sometimes on both sides of the chest at once, at other times one and the other alternately, but in the majority of cases it is heard on the right side only. This sound is at first nothing more than a râle of pulmonary congestion of an arthritic character. It is not, in fact, says the reporter to the Academy, pleuritic at all. However, the sign appears to be of practical value, a careful examination of one hundred and forty-five arthritic patients having shown its presence. Whether it may not also occur without the presence of rheumatism is the question which is not yet decided. However, enough is known to make this auscultatory sign well worth the investigation of practical physicians.

A VASO-MOTOR NEUROSIS OF THE SKIN. —Appenrodt (*Deutsche Med. Wochens.*, 1880, No. 16; *Cbl. f. Chir.*) attended a thirteen-year-old boy, of scrofulous habit, but otherwise healthy, who in the space of two years suffered six attacks of a peculiar affection of the skin. This began as redness of the end of the nose, with pain. A few days later, after the exudation of slight moisture from the surface, three parallel longitudinal stripes, like excoriations, showed themselves. Others appeared later on the nose and eyelids. A few days afterwards half-dollar-sized patches appeared on both cheeks, presenting an erysipelatous appearance, with deep infiltration, on the surface of which little pearls of transudation showed themselves, looking like the lesions of eczema. The moisture soon dried up, leaving little crusts, and the entire eruption healed up without scaliness, though a certain amount of reddening of the skin, always worse on exposure to cold, remained.

Three or four attacks occurred in the year. The eruption resembled erysipelas, but was without fever. It also closely resembled exudative erythema, but its symmetry and its constant localization pointed to a vaso-motor origin. A factitious etiology was excluded. All medication remained without effect.

NITRE-PAPER IN ASTHMA.—Dr. William Murrell (*British Medical Journal*, June, 1881, p. 918) bears testimony to the great value of the fumes of nitre-paper, if properly prepared, in many cases of asthma. Pieces of white blotting-paper, six inches square, are saturated in a hot concentrated solution of chlorate and nitrate of potassium. Six of these pieces are laid one over the other, so as to form a thick tablet. Before quite dry, the pieces of paper may be individually sprinkled with Friar's balsam, camphor, or some other aromatic. When used, the tablet is to be folded like a book-cover, and placed on its edges on a plate, and then lighted.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, SEPTEMBER 24, 1881.

EDITORIAL.

CURBSTONE DOCTORS.

THE ingenious journalistic mind has coined a word to describe the new species of medical man who has of late too prominently represented the profession in the eyes of the world, and has given the title "curbstone doctors" to the irresponsible individuals who have been ready with unasked advice for the treatment of the President's case, or who have published their "criticisms" of the medical attendants in the columns of the daily press. Like the financier who was found dead of starvation in a garret, with a "plan to extinguish the national debt" in his pocket, the curbstone practitioner is not unfrequently one whose abundant leisure and freedom from the pressure of personal practice permit him the opportunity to theorize on the President's case to the nearest reporter and to demonstrate the imbecility of the medical attendants and the futility of their fatuous efforts to prevent an intelligent community from understanding what every one but themselves must know, that they are all wrong,—wrong in diagnosis, wrong in treatment, wrong in prognosis,—and that the only thing to save the President's life is—to take the curbstone practitioner's advice.

Of a different sort is the curbstone practitioner whose standing in the community is good and whose fame or notoriety gives his expressions a certain value in the general opinion. The criticisms of such persons as they have appeared in the daily press can but be interpreted in one of two ways,—either as the product of an irresistible itch for notoriety which forces the critic to put himself forward on every public occasion, or, worse still, a venomous envy, hatred, and malice which makes the nation's calamity an excuse for an attack upon the object of its aversion.

The natural desire on the part of the community to possess not merely the facts relating to the case of the illustrious patient, but such comments, however little their worth in the absence of full and exact data, as may be furnished by editorial wisdom, has led many of our contemporaries, lay and medical, into the premature expression of opinions which perhaps, on reperusal at a later date, may give rise to retrospective qualms. Nothing can be lost, except on the part of the "curbstone doctors," by waiting until the history of the case is presented. As to the distinguished gentlemen in charge of the President's case, curbstone judgments, fortunately, do not give them much uneasiness. In the dignified words of one of their number, "the criticism to which the President's medical and surgical attendants have been subjected does not disturb their equanimity in the least. They have a responsible duty to perform. Nothing will be omitted, nothing knowingly committed, which in their judgment will endanger this valuable life, and, when the proper time arrives, they will submit the medical and surgical history of this remarkable injury to the profession, the only tribunal competent to pass an opinion on the conduct of the case."

CORRESPONDENCE.

THE ADIRONDACKS.

IN the editorial column of the *Philadelphia Public Ledger*, August 8, 1881, is an admirable article on "Camp Cures," in which it is stated that, owing to an enthusiastic recommendation of the Adirondacks as a cure for consumption, in an article entitled "Camp Lou," which appeared in the May number of *Harper's Magazine*, "great and sad caravans of sick people are to be met with at every turn on the Champlain boats and the

railways on the borders of the Adirondacks. Any and every sort of consumptives are going, regardless of the fact that not every sort of lung-trouble is benefited by the bracing, stimulating, almost congesting air of this great mountain park of New York." Though appearing as an editorial, it is evidently from a professional pen, and contains much that may profit both physician and patient.

I read this for the first time about a fortnight ago, in the very region referred to, and among many of these sad pilgrims. To "go to the Adirondacks" appeared to be the only direction that many of them had received; and here they were, hundreds of miles from their homes, drifting, as it were, without compass or captain, and some of them making sad shipwreck of the little that was left them of hope and of life.

With the Adirondack region I have been acquainted for many years, and since the summer of 1869 have made an annual visit to it. I know its value for the sick, as I know its abounding pleasures for the well; but I also know that to send every form and stage of lung-trouble there, without accurate and specific directions for the invalid, and without a personal knowledge of the region itself, is unwise, I had almost said, is cruel.

"Man may not live by bread alone;" and it is equally true that man, and especially a sick man, may not live by air alone. He must have not only good air, but good food; and it will greatly help him if, with these, he have about him good society also. And yet, as has been intimated, everywhere in this region this summer were to be found instances where attention to these essentials had been neglected. It is with the hope of preventing a recurrence of these disasters that this paper is written.

It is needless to give a detailed account of the situation and sanitary properties of the Adirondacks. These have been abundantly furnished by guide-books, and a medical paper on the subject may be found in vol. xv. of the *New York Medical Record*.

That for many forms of bronchial and pulmonary disease, for the early stages of phthisis, for men more advanced in this disease, who love an out-door life and the sports of the woods, much benefit may be obtained, cannot be questioned. The writer has now in his mind a lady sent by him to St. Regis in the summer of 1870,—a patient of the late Dr. Pepper, who was regarded by that accurate diagnostician as hopelessly ill,—who had at that time, with the ordinary rational symptoms of phthisis, the physical signs of dulness on percussion and coarse moist subclavicular râles, but who, from the first, derived advantage from a residence at St. Regis, and who, since that time an annual visitor there, is now apparently well, the physical signs having long since disappeared with her improved general condition. The late Dr. Ralph Townsend—then with extensive tuberculous softening—found great benefit from his life at St. Regis, and that life and the enjoyment of it were for some years prolonged by his visits there. One of the most remarkable instances of the good effects of this climate is that of Dr. Edward C. Trudeau, of New York, who left that city some years since, apparently a hopeless invalid, and who, after having lived for some years continuously at St. Regis and its vicinity, is now a type of vigorous and active manhood. But, it must be added, in these years there have been not a few who have come to St. Regis with bright hopes who have failed to find there the health they so earnestly sought.

I have named St. Regis first because it was in this immediate vicinity that "Camp Lou" was situated, and because "Paul Smith's" is named by the magazine-writer as the cure for consumption. At Paul Smith's the invalid has long had the best social and hygienic advantages to be found in any public house in the Adirondacks. Here may indeed be found good air, good food, and good society. And yet it is not every one with pulmonary disease who should go to St. Regis. In the first place, besides an hour by rail from Plattsburg, there is a drive of nearly forty miles by stage-coach, which, however easy it may be for the tourist, is a pretty hard day's work for the invalid.* This, however, may be greatly lightened of its fatigue by stopping for the night at "French's," about half-way in the journey, or, perhaps even better, by resting at Bloomingdale, about ten miles east of Paul Smith's. The road is not a rough one, but is rather monotonous and tiresome. Of late years "Paul Smith's" has become a favorite and fashionable hotel, and for many summers has been so crowded as to greatly tax its obliging manager to find room for the crowds who visit it. An invalid arriving without previous notice, and sometimes even with previous notice, may be compelled to put up with quarters which are unsuitable for him. The only way by which this can be surely avoided is to go there early in the season, say in June or July, before the tide of travel has set that way. With these precautions, I believe many sufferers from lung-disease may be greatly helped by a residence at St. Regis.

Near by—say less than half a day's journey—is the Prospect House, on Upper Saranac Lake. This is beautifully situated, commands a lovely lake and mountain view, has comfortable rooms and a good table. It is well known to some of our Philadelphia physicians, one of whom, at least, spends a part of each summer there.

From the Prospect House to Tupper's Lake a little steamer plies daily, and it is doubtful if in the whole Adirondack region there is a more beautiful sheet of water than this.

* The writer was told this summer that next year this stage-drive would be shortened to twenty-six miles.

"Mark Moody" has a plain and, for tourists, a comfortable house at one end of the lake; but it is scarcely comfortable enough for invalids. At the other end of Tupper's Lake is "McClure's" Hotel,—one of the best-kept houses in the woods. For tourists it is a very desirable place; but Tupper's Lake, when I last saw it, was not in telegraphic communication with the outer world, and to the sick man it seems to be very far from his home. And yet along its shores and in its vicinity there are now many Philadelphians in camp, some of whom have long been invalids.

Returning from Tupper's to Saranac Lake, we have Corey's,—a place at which I have never stopped for any length of time, but which I have always heard favorably spoken of. On "the carry" between the upper and the lower Saranac is Bartlett's, a plain but comfortable house, where I have always found a good table. Many who are slightly invalided spend summer after summer here, as they think, to their great benefit. The late Dr. Ely, of Rochester, was for more than twenty summers an annual guest here. The house itself would look more cheerful and attractive if a few coats of paint were put upon it. It is a less expensive place than the others I have named; and, while naming this, it would perhaps be as well to say that "going to the Adirondacks," with all that it implies,—the cost of the journey, the cost of a guide, his board and one's own, and many other incidental but necessary expenses,—cannot be done without considerable outlay: and yet I know no investment which pays so large a dividend—in health, enjoyment, in everything that one needs in his summer vacation—as this does.

Coming from Bartlett's to the lower Saranac, we reach Martin's (now Miller's),—a large house, and one much frequented. I have never liked this place. To me, as I think they would be to invalids, the immediate surroundings of the house are depressing. Perhaps by another year the new proprietor will have the place improved.

Lake Placid, which is about twelve miles from Miller's, or which may be reached directly from Westport, on Lake Champlain, by daily coach, is a beautiful lake with lofty mountains about it, their base seeming to rest in the lake itself. The atmosphere here, like that of the lakes we have mentioned, is highly invigorating, and the general effect of the place is certainly inspiriting. There are four public houses here, and I regard it as a desirable place for invalids, especially for those who do not wish to be far from the line of daily travel. I have had no occasion, in my frequent visits here, to complain, but I was assured by those who had been there this year that the tables generally were poor, which, if correct, is a suicidal policy on the part of the landlords which cannot too soon be corrected. A very pretty rustic house has been built on the lake, known playfully as "Castello Rustico." It is plain and rustic, and would hardly do for confirmed invalids; but for those but little ailing, and with cheerful companions, it would be, I think, a healthful and pleasant resort.

The entrance to Lake Placid from Lake Champlain is by way of Westport and Elizabethtown. This last-named place is itself a favorite with tourists and with some invalids. The rides and the drives about it are beautiful; but the town is a warm—I had almost said, a hot—one; too much so, I think, for invalids.

The coach from Elizabethtown passes through the town of Keene, from which a road carries the traveller into Keene Valley.

Keene Valley, or, as it is often called, Keene Flats, has long been a favorite resort for tourists and for invalids. With the former it must long remain so, for it is a lovely valley, with grand mountain scenery, and is the gate-way to the exquisitely beautiful Ausable Ponds. But my own experience of Keene Valley during the month of August, 1880, did not impress me favorably with it as a place for invalids. The air lacked the snap of Placid, the Saranacs, and St. Regis. In the middle of the day it was very hot, and there seemed to be no way of escaping from the sun's rays. I write this with regret; for the social life at Beede's, in Keene Valley, was of the most delightful character.

Returning to the main coach-route from Elizabethtown, the invalid bound for Placid or the Saranac will find much relief in stopping for the night at the comfortable inn at Edmonds Ponds. A night passed here will enable him to reach Placid or Saranac next day without fatigue.

With much of the region thus described the writer, as he has said, has been well acquainted for the last twelve years. Within a few weeks his steps have been turned in another direction, with an earnest desire to know how much the place might be suited to a class of patients in whom he has long had the deepest interest.

Blue Mountain Lake is a beautiful sheet of water in the southern part of the Adirondack country. To reach it the traveller leaves Saratoga at 9.40 A.M., on the Adirondack Railway, the present terminus of which—North Creek—is arrived at in about three hours. Here coaches and carriages on buckboard springs are in waiting, and a journey of about thirty miles, twenty of which are over an excellent road, has yet to be made. To the tourist this is altogether a pleasant journey, but to the invalid it may be one of great fatigue. Especially is this the case with the last ten miles, which are through a forest, and which are generally made after night sets in. The road is in some places rough, but the chief inconvenience is from the darkness and the dampness of the night journey.

Should it happen to rain, as often it does, these discomforts are greatly increased.*

All this may be obviated, and by the invalid must be obviated, by stopping for the night at "Jackson's," a comfortable inn twenty miles from North Creek and at the beginning of the Woods Road. Next morning the drive may be pleasantly made and without fatigue.

As has been said, Blue Mountain Lake is exquisitely beautiful, closely resembling the most beautiful of the Scottish lakes. Until this year there were but two public houses here. They are both prettily situated, but—and I write it with regret—neither of them seemed to me to be up to the standard which an invalid requires; and yet in both of them there were sick men and women, some of whom had travelled hundreds of miles to get there. In one of these houses the furniture, both of the parlor and the bedrooms, was cheerless and scanty; and I was assured by those who had been there that the table was a poor one. In the other, with much in it to recommend it, my own observation soon showed me that, although with perhaps but a little more effort it might be made so, as it then was its table was unsuited to an invalid's stomach. This was much to be regretted, for here were good air and good society. It may be that another year will give better food. Perhaps it will be said that the writer is fastidious in the matter of diet. He thinks not, but insists that the guest should at least have good, sweet bread, good butter (if possible), good, fresh sweet milk, good beef, and fresh-laid eggs. On this diet an invalid may thrive; without it the best air will prove of but little value.

On the opposite side of the lake, commanding a beautiful view from almost every one of its many windows, there has, this summer, been erected a large hotel, called the Prospect House. This is capable of accommodating several hundred guests, and will be furnished with all the modern improvements,—electric bells, electric lights, etc.; but, what is far more important, it has delightful rooms, most comfortable beds, and a good table. An immense piazza nearly encompasses the house, affording beautiful views of the lake. There is a large drawing-room, with smaller and pretty reading-rooms, in each of which, as night came on, there were large open wood fires burning in pretty and antique fireplaces. Here for nearly a fortnight the writer, with a medical friend from Philadelphia, was comfortably cared for, as were many others of his fellow-townsmen, and here an invalid may find the three requisites which have been so much insisted on,—good air, good food, and good society.

It would, however, be a mistake to suppose that even here a complete exemption is afforded from all ailments. Several of the guests complained of diarrhœa, which by some was referred to the drinking-water,—a matter which must be looked into. I was more disposed to regard it as due to the cold drive through the forest after night. A little good claret at dinner appeared, in most instances, to be all that was needed in the way of medication.

It would hardly be worth while to go so far for good air and good food were there no advantages to be found here which are not to be had nearer home; but that there are many such advantages I do not doubt. Among them are the natural beauties of the place, the restful life it affords, and its clear, bracing atmosphere. A gentleman, himself an invalid, who had visited here long before the place had become so well known, assured me that east of Colorado, after many trials elsewhere, he had found no air so helpful to him as this. But Blue Mountain Lake is but the entrance to a grand series of lakes beyond it. A little steamer every morning at eight o'clock leaves the landing near the hotel for Raquette and Forked Lakes,—types of the wildest and most beautiful of Adirondack scenery. I resist the temptation to say much of the beauty of Eagle, Utowanah, and Raquette Lakes, as well as of that of the narrow rivers which serve as outlets to the lakes, whose shores are deeply wooded and even now have begun to put on their early autumn foliage, where,

> "Double, in air and water, showed
> The tinted maples along the bank."

On Raquette Lake are many pretty private camps, as they are called, but which really are well-built cottages. Besides these there are several small public houses where many invalids have been spending the summer, and which, though not "splendid," are thoroughly "woods-like."

As I write from no other motive than the desire to be helpful to the sick, I must speak of these places as they impressed me when visiting them. At Kenwill's I found several very sick men, one of them a physician from New York, who had greatly improved since he came there, and who, although the subject of serious pulmonary disease, was determined and seemed to be likely to get well. But I was not favorably impressed either with the appearance of the bedrooms or with the table at Kenwill's, though those boarding there seemed to be satisfied with it.

At the northern end of Raquette Lake is a short "carry" which leads to Forked Lake, where the Forked Lake House daily furnishes dinner to the passengers of the little steamer, and where there are several other guests. The landlord is a kind and obliging man, and there is much to tempt one to stay here; but here, again, the table fails to furnish such food as an invalid requires, and until an improvement in this respect be made I cannot conscientiously advise the sick to stay there, notwithstanding the many attractions of the

* It is intended, next year, to shorten the stage-journey, so that the drive after night shall be entirely avoided.

neighborhood. On Raquette Lake, much nearer to Blue Mountain, is "Bennett's," a small and pretty rustic house which impressed me most favorably. It is situated close to the lake, has a forest in the rear, and furnishes most of the advantages, hunting excepted, which can be had in camp. The whole effect of the house was bright and inspiriting; even a mild cultivation of the æsthetic was noticeable, and the dinner which I partook of there was a good one. I know no house in this vicinity which seemed to me to furnish so much of the real woods-life as this did, and the bright, cultivated people who were here, several of them invalids, appeared to be getting its full benefit.

I have written of the life in the public houses, larger and smaller, in this region, rather than of that which is to be had in the camp itself, and I have done so because others have fully written on this latter subject, and because, too, I well know that, of the great numbers of the sick who go to the Adirondacks, comparatively few can or should go into camp. I say this last, too, with a full appreciation of the advantages which the real woods-life has for a certain class of the sick, as well as with an intense love myself for this healthful, restful,—I had almost said, this glorious,—life in the woods, of which Dudley Warner has so truly said, "he who has once experienced the fascinations of the woods-life never escapes its enticements; in his memory of it nothing remains but the charm." But, for the invalid, there is so much involved in the act of "going into camp," that he may well pause before he undertakes it, and inquire if it be possible to obtain even the approximate advantages without incurring the expense, the fatigue, and the privations which it entails. Especially is this the case where the invalid is a woman. I very much doubt if a woman is ever quite in her right place in a camp, while I am very sure that a camp, for a woman who is ill, is an *error loci*. I mean, now, real camp-life, not the elegant substitute which is to be found for it in the pretty cottages which dot the shores of Raquette and Long Lakes. In these the invalid, man or woman, may be as comfortable as at a hotel or at home, and here the presence of woman is often its greatest charm.

At such a house as Bennett's, where one almost necessarily lives out of doors in the daytime, but has three good meals daily and a good bed to sleep on at night, the approximation to the advantages of camp-life is a very close one. And so, too, with the inmates of the larger houses, by the use of a day camp, put up on the pretty shores of Blue Mountain Lake or on that of St. Regis, to which the invalid may perhaps walk, or, every morning, in his little boat, be pulled by his guide, almost the same woods-life and its advantages may be obtained. But it will not be worth while for either the tourist or the invalid to go so far from home if he pass the day or the greater part of it in the hotel, or, still worse, in his room.

I have very hastily written these pages in the few days which have elapsed since my return home, and I have done so in the hope that they may be directly of use to the sick, or, through the columns of this journal, may be of value to those medical men who wish to send patients to the Adirondacks, but who have not a personal knowledge of the places I have named.

For a month to come the beauty of this region will be very great. Already, as has been said, the foliage has begun to put on its autumn tints, and a more exquisite picture than the shores of Blue Mountain, Eagle, and Raquette Lakes in this party-colored dress it would be difficult to imagine. The Prospect House, I am told, will be open all winter, and the St. Regis House will receive guests for one or two months yet to come. The wonderful exemption which this climate affords the subjects of the so-called hay-fever—that strange expression of a gouty diathesis, as I have long believed it to be—will keep many pleasant people here for some weeks longer; for what Sydenham has said of the ordinary form of gout is true of this,—it has for its subjects

> "More rich men than poor men,
> More wise men than fools."

In conclusion, the writer wishes to say that there are doubtless other places in the Adirondacks where an invalid may be comfortable besides those he has named. He has written only of those which he has known by personal observation. Excepting only his old friend and host of St. Regis, he has but a casual acquaintance with the proprietors of the houses he has named, and he has written without fear and without favor. If by these hastily-written pages he can add to the comfort and diminish the anxiety of a single sick man who has been told to "go to the Adirondacks," he will be content.

JAMES J. LEVICK.

1200 ARCH STREET, September 3, 1881.

TREATMENT OF COMPOUND FRACTURES AND WOUNDS OF JOINTS BY GLYCERIN AND CARBOLIC ACID.—Mr. F. C. G. Griffin reports in the *Lancet*, June, 1881, p. 985, a series of cases, both of compound fracture and of opened joints, in which very satisfactory results followed the use of pads of lint soaked in the glycerinum acidi carbolici of the British Pharmacopœia, without the use of antiseptic spray or any other elaborate preparation. Mr. Griffin regards it as of much importance not to disturb the layers of lint immediately covering and generally adherent to the wound, until the latter has quite healed.—*London Medical Record.*

PROCEEDINGS OF SOCIETIES.

AMERICAN DERMATOLOGICAL ASSOCIATION.

FIFTH ANNUAL MEETING.

Held at NEWPORT, Rhode Island, August 30 and 31 and September 1.

FIRST DAY—EVENING SESSION.

(Continued from page 793.)

THE session being opened for the reception of communications, Dr. Arthur Van Harlingen, of Philadelphia, read a paper entitled

A CASE OF LYMPHANGIOMA TUBEROSUM CUTIS MULTIPLEX,

giving an account of a woman, 30 years of age, who displayed a large number of tumors of various sizes and shapes distributed here and there over the whole body, together with numerous teleangiectases and irregular brownish patches of pigmented skin. The tumors in some cases resembled flabby molluscum fibrosum growths, while in other cases they were smooth lilac or bluish elevations from pin-head to hazel-nut size, and so compressible under the finger as to feel like bladders filled with air and to give the sensation of an umbilical hernia in a child. On excision they were found to consist of a pearly gelatin-like semi-transparent mass, with a smooth, bulging surface and without fluid contents. Microscopic examination showed the structure to be composed of fibrous and granulation-cell tissue, with numerous irregular spaces, sections of dilated lymphatic vessels. But two other cases are on record,—one described by Kaposi in Hebra's work on Skin Diseases, the other reported by Pospelow in the *Vierteljahresschrift für Dermatologie und Syphilis.*

Dr. Louis A. Duhring, of Philadelphia, read a paper entitled

THE SMALL PUSTULAR SCROFULODERM,

describing a series of cases of a peculiar papulo-pustular disease of the skin, occurring chiefly on the arms and legs, though found on the face and elsewhere, and characterized by the formation of small reddish lesions, prone to recur and leaving a sharply punched-out scar. The affection resembles most closely the papulo-squamous syphiloderm, from which, however, the history of its course differentiates it. It also resembles the *acne cachecticorum* of Hebra.

SECOND DAY—MORNING SESSION.

The Committee on Statistics handed in its yearly report, including the classified statistics of some eleven thousand cases reported during the previous year. Appended to the statistical report was a report on leprosy in North America, based upon data contributed by the various members of the Association throughout the United States and Canada. These go to show that the disease is more prevalent in North America than has been generally believed. The rest of the morning session was devoted to the reading of papers on leprosy. Dr. Isaac E. Atkinson, of Baltimore, read a paper on

A CASE OF TUBERCULAR LEPROSY,

giving an account of a native of Maryland, a person who had never lived out of the State, but who acquired the disease while resident there. The only possible source of infection to which the origin of the disease could be traced was in the person of a leper living in the neighborhood,—a case already reported by a member of the Association. This leper was on familiar but not intimate terms with the family of the patient. No direct contact of any kind could be ascertained.

Dr. James Nevins Hyde, of Chicago, then read a paper entitled

STUDY OF A CASE OF ACUTE TUBERCULAR LEPROSY,

giving full notes of an extraordinary case coming under his observation during its whole course, where the disease developed with great rapidity and led to a fatal result. Dr. Hyde also read a paper communicated to the Association by Dr. H. D. Schmidt, of New Orleans, entitled

PATHOLOGY OF LEPROSY.

A paper by Dr. William Fletcher, announced to be read by Dr. Duhring, and entitled

CASES OF LEPROSY IN CAPE BRETON, NOVA SCOTIA,

was in order, but, owing to mischance, was not received in time.

SECOND DAY—EVENING SESSION.

The discussion on leprosy was continued.

Dr. James C. White said he was becoming more and more convinced of late of the contagiousness of leprosy through inoculation. The rise and spread of the disease in the Sandwich Islands seems convincing as to its contagiousness. He would ask Dr. Atkinson if he could explain how contagion took place in this case.

Dr. Atkinson could not say. There were open sores on the old case. Of course he could not assert that there had been no sexual intercourse, but the social standing and respectability of Dr. Atkinson's case was strongly against the possibility of such an occurrence.

Dr. White continued with regard to Dr. Hyde's case. He was inclined to question the diagnosis, as the history seemed a very unusual one and the portrait of the case shown by Dr. Hyde did not resemble tubercular leprosy as ordinarily met with. He would be more ready to accept the diagnosis after a

careful microscopic examination of the lesions had been made.

Dr. J. E. Graham, of Toronto, said that Dr. Keys, who had examined the lepers at Cape Breton, thought the disease contagious only by inoculation. Drs. Bayard and Wilson were of the opinion that it was contagious in a more general sense.

Further discussion turned chiefly upon the pathology of leprosy, some of the speakers inclining to the view, at present becoming prevalent, of the presence of a bacillus, while others, as Dr. Heitzmann, suggested a probable origin in the central nervous system.

Dr. Hyde, in replying to criticisms upon his paper, said he himself was not absolutely positive as to the diagnosis of his case. He would not come to a conclusion until a careful histological examination of the lesions had been made.

Dr. Edward Wigglesworth, of Boston, read a paper on

BUCCAL ULCERATIONS OF CONSTITUTIONAL ORIGIN.

These are usually syphilitic in nature, though they are not always so. The fact that syphilitic ulcerations sometimes occur in persons above all suspicion of sexual immorality makes it doubly important for the general practitioner to recognize them by their appearance without asking too many questions. The only maladies likely to occasion doubt in regard to diagnosis are lupus and tuberculosis, and occasionally epithelioma. In cases of lupus the local treatment is identical with that adapted to ulcerations due to syphilis. When tuberculosis exists with ulcerations of the fauces or palate, or both, the pulmonary symptoms are almost always far advanced, and even when they cannot be detected the patient is sure to die of tuberculosis, more or less general, and treatment is practically useless. The possibility, however, that the case may be one of either of these diseases should always make the practitioner careful in expressing an opinion and considerate in his language, for the peace of a whole family is often at stake.

The writer then went on to give notes of a series of illustrative cases, and followed these by some general remarks on the treatment, particularly of syphilitic ulcerations. Stimulants are better than caustics, and, indeed, much harm is done by the indiscriminate use of the latter. The parts must be kept well cleansed, and this alone, when the ulceration is in the pharynx, gives great relief. The writer recommended the following solution for atomization:

℞ Tinct. iodini, pts. v;
Glycerinæ, pts. x;
Aquæ, pts. xxx.—M.

The most convenient instrument to use is that known as Fulgraffe's, which is made of hard rubber, with nozzles of various shapes,—one to send a stream of spray up behind the soft palate, one for a horizontal stream, and one for use in the larynx. The bottle should be kept nearly full, so that the stream may not be kept up longer than is intended, owing to compressed air remaining in the bottle. Three or four applications of twenty seconds each will be sufficient to thoroughly cleanse and stimulate any ordinary ulceration.

After the use of the spray, iodoform should be applied to the ulcer with a camel's-hair pencil, or blown on to it by an insufflator. A little powdered gum arabic mixed with the iodoform causes it to adhere better. Iodoform can also be conveniently deposited on the nasal mucous membrane by letting the patient inhale a saturated solution of the drug in ether.

Some cases require the use of the nasal douche with disinfectants. A convenient formula is one teaspoonful of chlorate of potassium with one-third as much carbonate of sodium and fifteen drops of a five-per-cent. solution of permanganate of potassium, all in a quart of water at 25° C., used with a fountain syringe. It is well to remember that a spray or a powder carried by a current of air may be used by blowing it into one nostril while the patient breathes through the open mouth. The spray then passes through the vault of the pharynx and escapes by the other nostril. If desirable, by instructing the patient to breathe through the nose, a powder may be blown into the larynx through the nostril.

Constitutional treatment is of course necessary. The lesions occurring late in the disease,—from the second to the twentieth year, and usually in cachectic subjects,—iodine must play a more important part than mercury. Cod-liver oil, ferric iodide, potassic iodide, iodine spray, and iodoform,—these are the great remedies. Of course all hygienic measures must be united with these.

THIRD DAY.

Dr. Charles Heitzmann, of New York, read a paper entitled

CLINICAL EXPERIENCE IN THE USE OF THE SOLUTION OF OXYSULPHURET OF CALCIUM.

This solution, commonly called after the name of Dr. Vleminx, who first introduced its use, has long been known in dermatology. It has been used chiefly for the treatment of scabies, and by Hebra for the removal of patches of psoriasis.

The solution of oxysulphuret of calcium is prepared as follows: Take one part of quicklime, two parts of precipitated sulphur, and twenty parts of water; boil in a china or glass vessel to the remnant of twelve parts, and filter. The dark-brown liquid resultant has a disagreeable smell and is a strong caustic. Oil of anise will in part obviate the objection-

able smell. The solution may be diluted with water or alcohol, the latter precipitating the sulphur, but not materially altering its composition.

The writer had used it in thirty cases of psoriasis of the body, the solution being applied in full strength or diluted, according to the susceptibility of the patient's skin, being rubbed into the patches with a piece of flannel until slight stinging ensues. Care must be taken not to irritate the skin by a too strong solution. Tar ointment is afterwards to be rubbed into the patches.

The writer had employed the solution of oxysulphuret of calcium in ninety-five cases of acne disseminata, of which seventy-five were cured; in twelve the result was unknown, and in three cases the disease was aggravated. The solution is in these cases to be diluted with three to six parts of water, rubbed into the face with a flannel rag, and left on over night. The next morning the face is washed with soap and water. The solution may be employed of greater strength as the patient becomes accustomed to it. Cold cream may be used to disguise the slight desquamation.

The writer had also employed the solution in a few cases of chronic eczema,—fourteen in all. In four cases of chronic eczema of the scrotum, the application of dilute Vleminx's solution, gradually strengthened, resulted in a cure.

Thirty-six cases of rosacea were treated by the writer, with good result in twenty-nine cases.

A limited number of cases of tinea tonsurans were treated by means of the solution, but without beneficial result. Eleven cases of tinea versicolor were treated, with brilliant success in every instance, the solution being used in half strength. It appears to be the safest and surest remedy in this affection.

Finally, six cases of scabies were treated, all successfully.

Dr. Heitzmann also read a paper entitled

REMARKS ON AKIDO-GALVANO-CAUTERY (ELECTROLYSIS) FOR EPILATION,

giving an account of his personal experience with this admirable method, which was introduced a few years ago by Dr. W. A. Hardaway, of St. Louis, a member of the Association.

The report of the committee on examination of a specimen of Ainhum presented last year by Dr. Da Silva Lima, of Bahia, was then read. The committee was of opinion that the disease is the result of artificial constriction of the toe by the negroes who present this deformity.

The various microscopic specimens illustrating the various papers read at the meeting were then placed under several microscopes and demonstrated to the members of the Association. After considerable discussion on these, the Association adjourned, to meet in Newport on September 1, 1882.

The following gentlemen were elected to serve as officers during the coming year: President, James Nevins Hyde, of Chicago; Vice-Presidents, W. A. Hardaway, of St. Louis, and George H. Fox, of New York; Secretary, Arthur Van Harlingen, of Philadelphia; Treasurer, Isaac E. Atkinson, of Baltimore.

PHILADELPHIA ACADEMY OF SURGERY.

STATED MEETING OF JUNE 6, 1881.

DR. R. J. LEVIS, Vice-President, in the Chair.

ETHYLATE OF SODIUM AS A CAUSTIC.

DR. R. J. LEVIS presented a specimen of this agent, and said, "I have used the ethylate of sodium for some special purposes as a caustic since my attention was directed to it by the several articles of Dr. B. W. Richardson, of London, and am convinced that it possesses peculiar and decided merits. It seems to be applicable to the destruction of morbid tissues which are not amenable to operative treatment by excision or strangulation. Its special merits seem to be that it is rapidly effective, controllable in action, and antiseptic. Its influences seem to prevent suppuration and putrefaction beneath the tissues sphacelated by its action. Its controllable character is certainly one of its marked advantages, as it is not inclined to spread by increased liquefaction on the surrounding parts.

"The ethylate of potassium may also be used, and it is a more powerful caustic than the ethylate of sodium; but Dr. Richardson prefers the latter. The ethylate of potassium is violent in action, and hemorrhage has followed its application.

"In making the ethylate of sodium, Dr. Richardson directs that half a fluidounce of rectified alcohol (sp. gr. 0.975) be put into a two-ounce test-tube, set up in a bath of cold water, to which are to be added, in small pieces at a time, some cuttings of pure metallic sodium. Hydrogen will at once escape. Then add sodium until the gas ceases to escape, warm the water in the bath to 100° F., and add a little more sodium until the gas again ceases to escape; then cool down to 50° F., and add half a fluidounce more of alcohol. This will give a solution of proper strength for general use as a caustic. But it can be made more active, if desired, by the addition of more sodium. The caustic should be kept in a glass-stoppered bottle, in a cool place, and not exposed to direct sunlight. Bottles made with a pointed stopper, which dips down into the solution, are convenient for its application. It may be used over extensive surfaces with the brush of glass fibre, or as well by the ordinary camel's-hair brush; but the brush is destroyed by a single use of the caustic. A

glass rod dipped into the bottle will do for its usual application. The ethylate of sodium must not be diluted by other fluid than alcohol.

"Dr. Richardson says that his use of the ethylates was founded on what is evident of their physical action. It seemed reasonable that if the ethylate were applied to a moist external growth there would be produced two changes,—a caustic action would be set up, and, at the same time, the alcohol would cause instant coagulation of the fluids of the part, so that the destruction would be *purely local and concentrated*. In addition to this there would be the advantage of the antiseptic action, which is so marked.

"The alcoholic solution of ethylate of sodium used by me was made by Wyeth & Brother, of this city. Pure ethylate of sodium, as a dry crystalline salt, is made by Dr. L. Wolff, chemist; but I have not yet had an opportunity of using it.

"Ethylate of sodium has been used subcutaneously, injecting twenty or thirty drops into malignant structures.

"The dry crust on surfaces to which the caustic has been applied should be removed before another application is made, but no force should be used in the detachment. The pain which follows the caustic action, if too long continued, may be relieved by applying undiluted carbolic acid to the part. For this purpose the crystals of carbolic acid are to be liquefied by heat and the solution applied with a brush."

EXCISION OF THE REDUNDANT SCROTUM FOR THE RELIEF AND CURE OF VARICOCELE.

Dr. M. H. Henry, of New York, was introduced, and made the following remarks on his method of treating varicocele by excision of the scrotum:

My own personal experience leads me to think that varicocele is not a common affection. This view is, I am aware, in conflict with the opinions of many distinguished surgeons. As chief surgeon of the Police Department of New York, I have for many years examined with my assistants applicants for appointment on the force. The result shows the following. During the years 1876–80—five years—1978 applicants submitted to thorough examination, and of this number 41 were rejected for varicocele and 61 for varicose veins of the lower extremities; 7 of the 41 cases of varicocele had also varicose veins of the legs. No one was examined who was not of age, nor, so far as it was possible to ascertain, who was beyond thirty years of age. These restrictions limit the examinations to the age in which, according to all standard authors, varicocele is most likely to occur and be developed to its greatest extent.

This will, to many, seem a small percentage of cases for the large number examined, and it might, without reflection, lead to the belief that the examinations were not very rigid. They are; but it is accounted for in the fact that the applicants are mostly men of the lower working-classes, of robust health, and of more than ordinarily good physique. It affords evidence that varicocele is an affection confined, to a great extent, to persons of feeble or impaired constitution or delicate habit of body, excepting those cases where it suddenly follows an injury or severe strain. This view is sustained by the experts in venereal diseases. The percentage is at least one in ten of those suffering from this class of affections, especially of those suffering from syphilis and old cases of stricture and gonorrhœa. During my term of service as surgeon-in-chief of the State Emigrant Hospitals, covering a period of more than seven years, cases of varicocele were rare, notwithstanding the service was very large. From January, 1873, to January, 1880, in my division, 10,227 patients were treated. This number included cases covering the whole range of surgery and surgical diseases. I am unable to give any reliable statistics. The records were so imperfect, and the assistance afforded me so inadequate, that it was impossible to utilize for reference this interesting field of observation. I believe, however, that the only cases of varicocele called to my attention were in the venereal wards and coexistent with some other disease.

Before referring to the features of varicocele and the operation I advocate for its relief, let me remind you that the main changes that take place in the veins are: 1st, the elongation of the vein; 2d, its tortuosity; 3d, the loss of the function of its valvular apparatus; and, 4th, the loss of resiliency of the veins, which is of various degrees of intensity. This loss of resiliency is due to certain structural changes which take place in the walls of the vein, consisting of a thickening of their coats by proliferation of their connective-tissue elements, following which there occurs fatty degeneration of the muscular elements, which, later on, may increase to a complete calcific degeneration.

In taking these changes into consideration, it will readily be seen that the various cases met with present phases varying in proportion to the extent of the progress of the pathological changes,—namely, those in which there is very little loss of resiliency, in which the varicocele would be slight, and those in which there is an absolute and entire loss, in which case the varicocele would be exceedingly large. As a result of this varicose condition of the veins, greater or less atrophic changes may take place in the testicle. These changes which take place in the veins react on the scrotum, which gradually becomes enfeebled, lengthened, sometimes thinned and redundant. This redundancy, which is probably due to an atony of its dartos muscle, may consist of walls of scrotal tissue of normal thickness, but, from clinical observation, I

think I am warranted in stating that there is thinning of the scrotal walls in the majority of cases: the intensity of this condition is in direct relation to the extent of the varicosity. It may be well to mention here that in many cases, particularly where this thinning of the scrotal walls exists, there is decided enlargement of the superficial scrotal veins.

I will not detain you by making any remarks on the many views, suggestions, and operations for the relief of this disease. I can only say that I believe amputation of the scrotum to be the best and safest of all surgical procedures. I am somewhat surprised that it is not in favor in England, nor has it received much attention from the Continental surgeons. Strange as it may seem, while Mr. Curling ignores the operation, he cites an admirable illustration of its value in the last edition of his work on the diseases of the testis. In a case related to Mr. Curling by Mr. Coulson, "the patient compressed the ring so tightly as to cause a slough of the integuments, which, having separated, was followed, fortunately, by such contraction of the part as to raise the testicle and afford relief from the uneasy symptoms of the complaint." I have met with a similar result following a case of sloughing due to a phlegmonous erysipelas.

Mr. Henry Lee, of London, recently advocated the removal of a portion of the anterior skin of the scrotum and subsequently dividing the veins which are to be obliterated. All the steps of the operation are conducted through the wound made by the removal of the skin. The veins are temporarily compressed to prevent hemorrhage, and then divided. Mr. Lee said that his object in interfering with the scrotum was to prevent any return of the varicocele. If Mr. Lee's operation is to effect a radical cure—which he claims—of the varicocele by obliterating the veins, and the removal of the redundant scrotum is of no service, I fail to see how his interference with the scrotum, such as he describes, will prevent any return of the varicocele. I allude to these suggestions because they emanate from a distinguished surgeon, who seems to have ignored the results of those who have advocated the removal of the scrotum for the relief of enlarged spermatic veins.

The only objector to this operation, as far as I can learn, is Dr. Frank H. Hamilton. His objection is based on *one* failure to cure on the part of a young man who did the operation shortly after I published my first paper,—ten years ago. The young man held a public appointment, and was subsequently dismissed for incompetency and deficiency of professional knowledge. He was Dr. Hamilton's pupil.

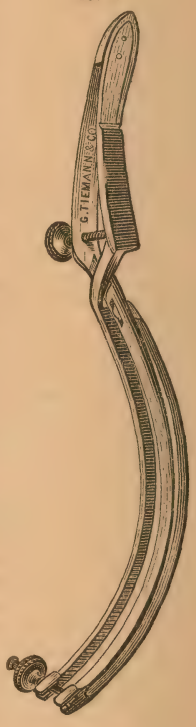
In the removal of a redundant scrotum in the manner I describe, for the relief of varicocele, no more than ordinary skill is called for. The success of any delicate surgical operation depends mainly on the care and management before and after the operation. I venture to allude to many little details because I am fully impressed that they bear an important relation to the chances of success.

Success in any operation depends on attention to details. Cases of minor surgery have frequently, by neglect of details, been converted into cases of major importance.

DESCRIPTION OF INSTRUMENTS.

The instrument which I have called scrotal forceps, or clamps, consists of two parts (Fig. 1). The main part of the instrument has two double-curved blades, made of steel, about ten inches long, sufficiently heavy to give strength and admit of pressure without injury when in contact with the tissues. The handles are large enough to admit of a good grasp without cramping. That part of the instrument below the joint is curved as nearly as possible according to the natural lines of the raphé, from the upper anterior part of the scrotum down to and under the scrotum, so that it embraces, when placed in front of the scrotum, the entire and exact portion which it is desired to remove. The coapting surfaces are evenly notched to prevent the tissues from slipping, affording a more secure hold on the soft parts, with less pressure and less injury than smooth surfaces. The blades are only thick enough to give strength without leaving too much tissue in front. The handles are curved so that, while they maintain a direct median line, they do not interfere or press on the genital parts. The double spring, besides giving additional security and compactness, renders them, to a great extent, self-acting.

Fig. 1.



The screws in the handle and at the end of the blades afford a complete and perfect hold of the parts to be removed. They are not adjusted until the operator is perfectly satisfied that he has embraced the exact portion to be removed in front of the blades.

The extra blade is made of steel, nickel-plated, and is maintained in the right anterior surface of the clamp by two small pins that fit in grooves cut in the clamp. It is easily inserted with a little pressure, and removed as easily by pressing downward and forward; it is then dislodged by slightly raising the extreme end. The extra blade, when in position, leaves a fenestra to afford the surgeon

the facility of inserting all his ligatures, should he prefer it, before dividing the parts. The thickness or amount of the tissue left in front of the main blade and between that and the extra blade, which is the guide for the part to be removed, is ample to assist union; and if the division is a clean one, and the stitches are close and evenly inserted, the pressure and tension is so slight, or, rather, divided over the entire cut surfaces, that there is little probability of ulceration through the stitches before union has taken place. The stitches must be so nicely taken that the edges are approximated without being too tightly drawn together. If the tissues at the points of insertion of the stitches are too tightly compressed, the cut edges may bulge out. This can be avoided with a little care such as I suggest.

When the part has been removed the extra blade is displaced, leaving a free border exposed in front of the main blade about a quarter of an inch in thickness. In a few minutes the whole wound can be stitched without any inconvenience. The clamp is, of course, not removed until this is accomplished.

Besides the clamp, the only instruments necessary are the scissors or scalpel, needles, with either silk or fine silver wire for sutures, a few acupressure needles, a few *serres-fines*, silver pins, and some adhesive plaster.

For the removal of the redundant portion I prefer scissors to the knife. I am inclined to think the hemorrhage is apt to be less and the cut edges heal more readily by first intention. I cannot give any positive explanation for this, but such is my impression. When the double layers of the scrotum are tightly compressed between the blades of the clamp, it forms a very dense, tough substance, and requires a pair of very strong, sharp scissors to cut through. It is as dense as cartilage. A strong pair of scissors will, with some extra effort, serve the purpose; but, to insure an easy and clean removal of the part, I use a cutting instrument which I have named cartilage-scissors (Fig. 2). I have dispensed with the rings. These scissors can be grasped and handled with the utmost ease. By the aid of the springs on the inner sides of the handles they are self-acting so far as opening the blades. They are curved on the flat side. They are not only useful for this operation, but will, I think, be found to serve better, and are handled with greater facility, than any other scissors, wherever a cutting instrument is needed for cartilage or other dense or thickened tissues.

Fig. 2.



The instruments were made by Messrs. Tiemann & Co., of New York. I need scarcely say that they are as perfect as it is possible for any instrument-maker to make them. Before any anæsthetic is administered, the patient should be carefully examined, and the forceps applied while in a standing position: this will afford the surgeon the best opportunity to decide the exact portion of scrotum to be removed. If this precaution be taken there is no danger whatever of his removing too much tissue. I am satisfied there is much more danger of his not cutting off enough. The patient being placed in a recumbent position, his thighs well separated with folded towels, the forceps are applied by placing the blades in front and under the anterior portion of the scrotum, and held in a direct median line. The end of the forceps being close to the perineum, the scrotum is then engaged between the blades of the forceps. Care must, of course, be exercised not to include anything more than the scrotum. As soon as they are adjusted and the proper amount of tissue to be removed engaged between the blades, the screws should be tightened and the part removed.

I find that by carrying the incision very low down, to the lowest and most pendulous part of the scrotum, it affords the easiest egress for any little portion of blood or serum that might collect there, and at the same time prevents, or at least lessens the chances of, an abscess. While I have never met with any such complication, I am nevertheless aware of the possibility of such an occurrence.

I use the ordinary interrupted suture; it affords advantages over the running stitch should it subsequently be found necessary to divide one or two stitches in case of hemorrhage or in case of severe œdema. If the interrupted suture be used, each stitch, being independent of its neighbor, affords facilities under these circumstances which I think are of no small value. The stitches should be close together. I have used silver pins and the figure-of-8 ligature—the same as practised in cases of hare-lip—in three of my operations. They all did well.

Teats, or angular points, are sometimes left at each end of the wound. This may be avoided by a slight rounding of the corners. Should any vessel be divided requiring special attention, the application of a small acupressure needle will be found most serviceable. If the bleeding occurs on or very near the border of the incised parts, I apply a *serre-fine* or acupressure needle.

In persons of a feeble or debilitated constitution diffuse hemorrhage may occur, as in any surgical operation. This is best treated by the local application of ice or of a solution of the persulphate of iron. In persons of a true hemorrhagic diathesis the operation should not be performed.

It has been suggested that there was danger

of a retraction of the dartos muscle in amputation of the scrotum; this, I think, cannot possibly occur if the forceps are used with ordinary care.

The treatment following the operation is very simple. A few strips of india-rubber adhesive plaster are fastened around the testes to assist in maintaining the cut edges of the scrotum in perfect apposition and to prevent any dragging on the stitches; a broad strip of adhesive plaster is then placed under the most dependent part of the scrotum and fastened on either side of and above the pubis. The wound should be kept perfectly clean and sponged three or four times daily with a weak solution of carbolic acid and water. Should any untoward symptoms manifest themselves, they would, of course, be treated on general principles.

When the wound has entirely healed and the patient is able to go about, I have been in the habit of advising the use of a suspensory bandage for some time. This precautionary measure is, I think, of decided benefit, allowing, or rather assisting, the enlarged veins to recover from their morbid size and condition.

The main objection urged against this treatment by persons who have never witnessed any of the good results of the operation is the fear of erysipelas. I have never seen any complication of the kind follow the operation, nor do I believe that there is any greater tendency to excite any phlegmonous inflammation in this operation than there is in any other surgical procedure in other parts of the body. The adoption of Lister's apparatus and method of after-treatment would doubtless lessen the risk in the estimation of those who resort to it in their operations.

I was first led to perform this operation because it was suggested by Sir Astley Cooper, who published five cases which he regarded as successful in their results, and an additional case with some extraordinary features submitted by Mr. Key, who was also in favor of this operation, and preferred it to that of ligation of the veins. The difficulty in the performance arose from the want of a proper clamp. The one I presented ten years ago has met, I am pleased to state, with universal approbation. I have now performed the operation fifteen times during the past ten years without any unpleasant results. My cases have ranged between the ages of nineteen and forty-five. The varicoceles were all on the left side, excepting in one instance, when both sides were involved. Nine of the fifteen cases healed perfectly by first intention. The remaining six healed partially by first intention and subsequent granulation. Those that healed by first intention made perfect recoveries within a week. The longest period of confinement in any of my cases was fifteen days. This was the case of a young gentleman of feeble constitution, who had led an irregular course of life for some time before the operation. I operated in his case in February, 1878. The following year he called on Sir James Paget, and directed his attention to the results of the operation. That distinguished surgeon assured him it was a success. I had an opportunity of examining this patient about four months ago. The result was all that could be desired. In another case, operated on in May, 1872, I examined the patient in January last, and the result was equally satisfactory.

In June, 1870, I assisted a surgeon of this city, who removed the redundant scrotum for varicocele from a lad fifteen years of age. The want of a proper clamp rendered the operation a tedious and unpleasant one: there was no union by first intention, and for some time the case looked very unsatisfactory. April 7 of this year, I examined him and found the result to be a good one. He was perfectly satisfied.

In 1863, a gentleman, twenty-seven years of age, consulted a surgeon of this city for relief from a varicocele of left side. The veins were ligated by Ricord's method. The pains continued with the same severity, with the addition of more intense irritation and swelling along the course of the spermatic veins and in the inguinal region. This proved such a serious annoyance that, in 1864, he submitted to amputation of the redundant scrotum. I was present at the operation. The surgeon removed a large section entirely from the bottom and most dependent part, forcing the testes up high, so that when the patient assumed the erect posture the testes bulged out in front of the penis and became an additional annoyance. A third operation was performed,—the removal of a section from the anterior surface of the scrotum, along the median line. He was relieved of his suffering, with the exception of the irritation and swelling in the course of the spermatic veins in the inguinal region. In 1870, another surgeon pronounced that he had a hernia. Under his advice he wore a truss for one year. In 1871, another distinguished surgeon assured him he had no hernia, and confirmed his own impressions that his suffering was due solely to the ligation of the spermatic veins. He continues the use, more or less, of a suspensory bandage. April 14 of this year, I had an opportunity of examining him. The scrotum presented a normal appearance, and the spermatic veins were no longer any source of annoyance. He stated that he felt perfectly well, and said that if asked which operation he thought most advisable, he assured me the removal of the redundant scrotum would be his choice. He said that he would, under all circumstances, condemn ligation of the veins.

I give the details of this case because they furnish evidence of a practical character, after a lapse of sixteen years from the time the first operation was performed, and, ad-

ditionally, because they are given by an educated gentleman of much more than ordinary intelligence.

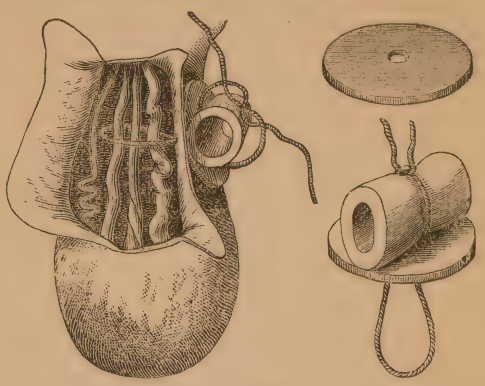
My experience has led me to the following conclusions: 1. Varicocele is a disease that may occur at any period from boyhood to middle life. 2. It occurs mainly in early manhood. 3. It is not of such frequent occurrence as generally believed. 4. It is mostly met with in persons of delicate or impaired constitutions, or in those who have become enfeebled by disease or venereal excesses, or both. 5. In robust persons it may follow a severe strain or direct injury in the region of and along the course of the spermatic veins. 6. It is sometimes complicated with disease of the testicle, hydrocele, and hernia. 7. A correct diagnosis is easily made with ordinary care and attention. 8. Ligation of the veins is not without risk and danger to life, and does not offer any decided prospects of a radical cure. 9. Ligation of the veins does at times cause loss of virility and atrophy of the testicle. 10. The obliteration of the veins by the galvano-cautery has so far proved only a substitute for the ligation of the vessels. 11. Amputation of the redundant scrotum offers at least as good a prospect of cure, without any chance of injury to the glands and without risk to life. 12. Union by first intention becomes as nearly as possible a natural sequence. 13. Dangers from hemorrhage and inflammation are reduced to a minimum. 14. The operation with this instrument is easy of accomplishment.

Dr. Thomas G. Morton spoke of a case of enlargement or elephantiasis of the scrotum, in which he had removed a section of skin and ligated both spermatic arteries. The man was improved by the operation. He also referred to the points of similarity between Dr. Henry's varicocele clamp and an instrument that he himself had devised about eighteen years ago for cutting out a section of skin in cases of entropium.

Dr. Henry stated that Curling mentioned an instance in which varicocele was cured by sloughing of the scrotum. In such cases, and in cases treated by excision, as described, it did not seem probable that the integument would stretch again, as the extensibility had been lost.

Dr. J. M. Barton referred to a case of free hemorrhage that occurred after excision of the scrotum by Dr. S. D. Gross.

Dr. R. J. Levis said that fifteen or eighteen years ago, during his service in the Philadelphia Hospital, he had treated a case of varicocele by cutting off a portion of the scrotum with scissors, but he did not cut away enough of the redundant tissue. In another case he had thrust needles through and tied up with a ligature as much as could be grasped, and then excised. This case he thought resulted better than the other. The attempts were rather awkward, but were in the same direction as the operation described by Dr. Henry. He had employed animal ligatures for tying the varicose veins, but had abandoned their use because of failure, due, in his opinion, to too rapid absorption of the catgut. He now uses a string, which he passes through a metal plate and ties over a small piece of rubber tubing, as represented on the blackboard. The rubber tube acts as an elastic spring to keep up pressure. The ligature does not usually cut through in less than five or six days.



Dr. C. B. Nancrede called attention to the fact that the condition was not merely one of mechanical stretching, but of new growth or hypertrophy, just as hypertrophy occurred in old herniæ.

Dr. John H. Packard asked whether there was any danger of grasping a portion of the vaginal tunic in the clamp and thus cutting it away with the scissors. He himself employed two double ligatures of fine wire, looped through each other and fastened by twisting together over a pad of wood. They could then be tightened up as desired during the ten days which it usually required to effect division of the veins. His patients had not complained much of pain, but the procedure is sometimes tedious. The method resembled Ricord's manner of performing the operation, but the apparatus was simpler.

Dr. S. W. Gross had had Dr. Henry's instruments as first made in his possession, but had always employed ligation. He preferred the elastic ligature because of the pain given when the ordinary cord was repeatedly tightened. The elastic ligature came away in about sixteen days.

Dr. J. Ewing Mears had recently seen two cases of atrophy of the testicle following ligation done by other operators. He thought the procedure described was rational and one that might take the place of the ordinary method of ligature.

Dr. Thomas G. Morton had never seen trouble follow the ligature. He always ligated in two places with silver wire. The upper ligature was applied close to the inguinal ring, the other about one and one-half inches below. The wires were usually removed in

forty-eight hours, though occasionally one was left longer. The symptoms were less violent than in the ordinary manner of ligating, but obliteration of the veins occurred as was desired.

NEURALGIA OF UPPER JAW.

Dr. R. J. Levis exhibited the patient with neuralgia of the upper jaw whom he had mentioned at the last meeting as a case in which he had pared away the periosteum of the alveolar process. No good result followed the operation, for the pain persisted.

ARTIFICIAL ANUS AND PROLAPSE OF THE INTESTINE FOLLOWING SLOUGHING OF A SCROTAL HERNIA.

Dr. J. M. Barton exhibited a patient, aged 67, who had had a right scrotal hernia for thirty or more years. About one year ago, after what appears from his description to have been a condition of strangulation or impaction, sloughing occurred, and an opening was formed through which fæces have since escaped. Subsequently the mucous membrane of the bowels became protruded at each end of the loop of intestine, which had been opened by the gangrenous process. At the present time there are several inches of prolapsed colon visible at each of the two openings. From the lower orifice fæces are discharged, showing it to be the upper extremity of the intestine; from the upper opening no evacuations occur. Very infrequently whitish material is discharged from the anus. [This patient was subsequently subjected to operation by Dr. F. H. Gross.]

CASE OF ATROPHY OF LEGS — PATIENT ENABLED TO WALK BY ADAPTATION OF ARTIFICIAL LIMBS.

Dr. Morton exhibited photographs of a young man who had paralysis and atrophy of the legs, whom he had enabled to walk by flexing the legs upon the thighs and adapting artificial limbs to the stumps thus produced. The boy was able to walk with the aid of canes, which was all that could be expected, as the muscles of the thighs were also diminished in power.

JOHN B. ROBERTS,
Recorder.

ATROPIA IN VASELINE.—Dr. Klein, of Vienna, recommends, in place of the ordinary solutions of atropin, to use an ointment prepared as follows: Sulphate of atropia, ¾ gr.; vaseline, 160 gr. If the atropin salt be thoroughly triturated with the vaseline, it is unnecessary to use any solvent. The application of this ointment is much easier than the instillation of the solution. It is best applied by means of a camel's-hair brush to the inner surface of the lower eyelid pulled down.—*London Medical Record*, June 15, 1881.

REVIEWS AND BOOK NOTICES.

CLINICAL LECTURES ON THE DISEASES OF OLD AGE. By J. M. CHARCOT, M.D. Translated by LEIGH H. HUNT, B.Sc., M.D. With Additional Lectures by ALFRED L. LOOMIS, M.D. New York, William Wood & Co., 1881. (Wood's Medical Library.)

In this compound volume about two-thirds have been written by Prof. Charcot, and the remainder by Prof. Loomis. After an introductory chapter on Empirical and Scientific Medicine, and one on the General Characteristics of Senile Pathology, there follow chapters on gout and rheumatism to the number of seventeen,—a very large proportion of the work, considering the infrequency of gout in this country. An appendix on temperature closes Charcot's part of the work, and all the other subjects—pneumonia, bronchitis, asthma, atheroma, fatty heart, cerebral hemorrhage and softening, chronic gastric catarrh, constipation, and hypertrophy of the prostate gland—have been treated of by Prof. Loomis, and form the best part of the work, very decidedly, we should say.

THE PRACTICE OF MEDICINE AND SURGERY APPLIED TO THE DISEASES AND ACCIDENTS INCIDENT TO WOMEN. By W. H. BYFORD, A.M., M.D., Professor of Gynæcology in Rush Medical College, etc. Third Edition. Philadelphia, Lindsay & Blakiston, 1881.

Dr. Byford's work having been so long before the medical public, and that public having decidedly expressed its opinion as its value by buying two large editions, it seems scarcely necessary to do more than chronicle the issue of another edition, with the failings of its predecessors, but with added virtues.

The author says in his preface, "Surrounded as I have been by such a throng of active workers, the results of whose labors I have tried to assimilate, my former ideas have been greatly modified, and, I hope, also improved."

THE COMPEND OF ANATOMY. For Use in the Dissecting-Room and in Preparing for Examinations. By JOHN B. ROBERTS, A.M., M.D., Lecturer on Anatomy and on Operative Surgery in the Philadelphia School of Anatomy, etc. Second Edition, revised. Philadelphia, C. C. Roberts & Co., 1881.

The first edition of Dr. Roberts's little book has been exhausted within six months of its appearance,—a fact which speaks well for its popularity among students of medicine.

Though this fact, alone considered, would by no means indicate special worth in any given case, yet in the present instance we are inclined to think the medical student has done well to absorb such a useful and carefully-arranged anatomical guide. By adopting a condensed style, putting in no irrelevant mat-

ter, and saving space where space could be saved, the author has managed to crowd a vast amount of anatomical knowledge into a very small space, and his book is certainly the best of its kind with which we are acquainted.

LECTURES ON DISEASES OF BONES AND JOINTS. By C. MACNAMARA, F.R.C.S. Eng., Surgeon and Lecturer on Surgery at the Westminster Hospital, etc. Second Edition. London, J. & A. Churchill, 1881. 8vo, pp. 551.

Considerable change, in the way chiefly of enlargement, has been made in the second edition of Dr. Macnamara's book, and he has also altered the plan of the work so as to include lectures on diseases of the joints. In fact, as he states in his preface, the greater part of the work has been rewritten. The author's stand-point is that of the practical surgeon. He does not go deeply into the pathology of his subject, but in a series of chapters on the various affections involving the bones he gives a fair idea of the diseases of these structures as the physician and surgeon is apt to meet them. If he is unsatisfactory in any point, it is upon that of pathology. The practical part of the book is very good.

LECTURES ON THE SURGICAL DISORDERS OF THE URINARY ORGANS. Delivered at the Liverpool Royal Infirmary by REGINALD HARRISON, F.R.C.S., Surgeon to the Infirmary, etc. Second Edition, considerably enlarged. New York, William Wood & Co., 1881. 8vo, pp. 395.

When the first edition of Mr. Harrison's work appeared, it was reviewed in these columns at some length, and the judgment passed at that time may only be modified by commending the additions and enlargements to the subject-matter made in the present issue. We cannot so heartily commend the thick paper and loose, straggling-looking type, which, while bringing the volume up to a more considerable size, do so at the expense of making it more clumsy to handle than is necessary.

RHEUMATISM: ITS NATURE, ITS PATHOLOGY, AND ITS SUCCESSFUL TREATMENT. By T. J. MACLAGAN, M.D. London, Pickering & Co., 1881. 8vo, pp. 333.

Dr. Maclagan introduced salicin as a remedy for the treatment of rheumatism to the notice of the profession in 1876. In the present volume the miasmatic theory of rheumatism, referred to in the paper just mentioned, is more fully expounded, and an explanation is offered of the manner in which the salicyl compounds produce "the marked antirheumatic effects which they are now all but universally acknowledged to possess."

That portion of the book to which the reader will first turn is the chapter on the malarial origin of rheumatism. This Dr. Maclagan believes in, and he endeavors to prove his views by argument at considerable length. Considering the malarial origin of the disease proved, he then goes on to show why the salicyl compounds are useful. The book is one for the clinical investigator, and is not a text-book of practice.

LECTURES ON DIGESTION. An Introduction to the Clinical Study of Diseases of the Digestive Organs. Twelve Lectures delivered to Practitioners and Advanced Students of Medicine during the Winter Session, 1878–9, by DR. C. A. EWALD, Lecturer in the Royal University of Berlin, etc. Translated by ROBERT SAUNDBY, M.D. Edin., etc. New York, William Wood & Co., 1881. 12mo, pp. 150.

Dr. Ewald's lectures are already known to many members of the profession, and to these nothing need be said as to their value. The appearance of the present edition gives us the opportunity of recommending the work to the attention of practitioners who are desirous of obtaining in a small compass the results of modern research on the digestive functions. Though strictly scientific, Dr. Ewald's lectures are in the highest degree practical, dealing with the digestive function from the practitioner's stand-point, and not from that of the mere physiologist.

GLEANINGS FROM EXCHANGES.

URETHRAL FISTULA.—At a recent meeting of the Société de Chirurgie, M. Poncet related the case of a man who came to him with a lesion of the penis producing a urethral fistula. This individual, suffering from hypospadias, introduced into his urethra certain foreign bodies, among others a gold watch-chain, which caused considerable swelling of the prepuce and a fistula. M. Poncet was able to close the fistula by paring the edges and introducing deep and superficial sutures. This treatment succeeded admirably, but the patient on leaving the hospital deliberately tore open the cicatrix.

Hermaphrodism.—Another member reported a very curious case of hermaphrodism. A man, born of healthy parents, was registered in his district as belonging to the female sex. At the age of thirteen menstruation commenced, and at the same time the breasts were seen to develop themselves, and "she" was observed to have inclinations common to her sex at that period. She got married, but copulation was never able to take place. Her husband died in 1871. After that time her ideas changed; she had several mistresses, with whom coïtus was regularly accomplished. She shaved every second day; the face is not very masculine, yet the body in its outline approaches nearer that of the male sex. The penis is no larger than that of a child twelve years old. There

is hypospadias. In each labium can be felt a rudimentary testicle. There is no vagina or uterus. This hermaphrodite belongs to the class of the imperfect bi-sexual hermaphrodites of Geoffrey St.-Hilaire. M. Pozzi believed it was more the case of a man with hypospadias than a true hermaphrodite. The infundibulum between the labia was due to the attempts at copulation. The feminine voice and the voluminous breasts were not astonishing, as the same are observed in eunuchs. He believed that hermaphrodism is getting very rare. For the last twenty years not one true case was demonstrated. M. Pozzi was sustained in his views by all the other members, with the exception of M. Tilleux, who thought that hermaphrodites really existed.

Bromide of Potassium in Epilepsy.—In a classical book styled "Nouveaux Eléments de Matière Médicale et de Thérapeutique," the authors declare that in the treatment of epilepsy in adults drachm doses of bromide of potassium should be given daily, and gradually increased to two or three, or even six, drachms in the twenty-four hours. This opinion, constituting a grave error and fraught with danger, induced M. Ferraud, who has been a close observer of the results obtained at the Salpêtrière Hospital by M. Sequard de Saulle, to devote his *thèse* to the treatment of this disease as followed by this physician. In comparing the years 1879 and 1880, M. Ferraud divides the epileptics into three categories: the first comprises those patients who for some considerable time have had no more attacks; the second, those in whom the attacks have sensibly diminished by half or more; and the third, those who have been only slightly relieved. Of seventy-nine patients, twelve belong to the first group, fifty-one to the second, and sixteen to the last. M. de Saulle commences with thirty or forty grains, at the most, of bromide of potassium in the twenty-four hours, and after the first fortnight, according to the case, increases it by eight grains. At the end of the second fortnight another slight increase is made, so that at the end of from three to six months the daily dose of from sixty to ninety grains for women and eighty to one hundred and twenty grains for men is attained. These doses should, if possible, not be exceeded. Under any pretext the salt should not be increased too rapidly, for fear of inducing bromism. As soon as a patient remained one year without an attack the medicine was given every second day during the first fortnight of each month, and every day for the second. At the end of two years, if the patient still remained free from attack, the bromide was given but every fourth day during the first fortnight of each month, and every day during the second, and so on. M. de Saulle believes that the reason that medical men are so much discouraged in the treatment of this disease lies in the fact that as soon as a slight amelioration is observed the dose is diminished progressively. He has at present four epileptics who for more than twelve years have not had one attack, yet they have not entirely suspended treatment. Bromide of potassium has been accused of weakening the memory; but this effect is observed only where the daily dose exceeds three or four drachms. In any case, M. de Saulle, when he reaches the dose of ninety grains, orders two or three cups of strong coffee to be taken in the day as a preventive. He has thus never seen any evil results from the salt.—*Correspondence Medical Press and Circular.*

Treatment of Chorea.—At the end of a paper on chorea, based upon an experience of one hundred cases (*British Medical Journal*, vol. ii., 1881, p. 145), Dr. William Strange speaks of the treatment, saying that the changes must be rung on the so-called nervine tonics, varying them according to the temperament of the child or to the collateral symptoms accompanying the choreic movements. If pallor, palpitations, and loss of weight exist, iron or arsenic, or both, will be necessary. If, on the contrary, the vascular system be sufficiently full and the motile element prevail, then the bromides with ammonia, or the succus conii, will be of most avail. Frequently, whatever the condition of the vascular system and of the general nutrition, no good arrives until we have succeeded, by sedatives, in calming the excessive mobility of the nervous system. In these cases Dr. Strange has used the ice-bag to the spine and the ether spray to the nape of the neck, but not with much success. Direct calmatives—digitalis, belladonna, cannabis indica, with the bromides—answer the best.

The nervous symptoms once quieted, iron or arsenic may now be given, and carried to a somewhat high degree. Some have recommended large doses of arsenic, ten to fifteen minims of Fowler's solution; but Dr. Strange has seldom found that the stomach will tolerate these large doses, and has contented himself with much smaller ones, in combination with iron or zinc.

But, whatever the remedy selected, it will be necessary to continue its administration until it has produced its special physiological effect. Especially is this necessary with the neurotic sedatives. Children bear large doses of belladonna and conium; and Dr. Strange has never found this class of remedies do much good until their full physiological effects (consistent with safety) have been produced.

Dr. Strange used some years ago to treat all his cases of chorea with wine alone, the port wine of the hospital, merely clearing out the primæ viæ, to make sure that trouble was not caused by entozoa or depraved alvine secretions. The amount given was three to six ounces daily, and all the cases got well.

After suspending this treatment for some years, he has recently recommenced it with good results.

Abdominal Abscess as a Result of Enteric Fever.—Dr. R. Bruce Low (*British Medical Journal,* vol. ii., 1881, p. 122) says that abdominal abscess after enteric fever is not often met with. Little information regarding it is given in the text-books. For this reason he places on record two cases which he has met with in practice. The first was that of a girl of five, who had peritonitis in the third week of the fever. From this she rallied, and the distention of the abdomen gradually subsided, leaving only a hard and painful swelling on the right side of the umbilicus. Poultices were applied for a few days. After this the abscess burst spontaneously, discharging horribly offensive pus, and healed up at the end of ten days. The child recovered.

A second case, a girl of seven, had a typical attack of typhoid fever. During the fourth week pain was complained of in the umbilical region, and a hard lump gradually developed to the right of the navel. It could be seen projecting under the abdominal wall as large as a cricket-ball. Poultices were applied. Four days after, the doctor was informed that the lump had burst. The child had asked for the bedpan, into which she passed *per anum* about a cupful of pure pus. On examination, no trace of the lump in the umbilical region could be found. All the symptoms disappeared, and the child made a rapid recovery.

Dr. Low remarks that the origin of the abscess in the first case seemed to have been due to peritonitis arising probably from a deeply ulcerated Peyer's patch, with matting of the intestines, and possible subsequent perforation, with consequent encysting of the extravasated contents of the bowel, which ultimately were discharged through the abdominal wall in the form of an abscess. In the second case the abscess was probably due to the suppuration of a swollen and inflamed mesenteric gland, which had excited adhesion to the bowel, through which it opened and discharged its contents without any bad results. Both children were scrofulous. The occurrence of abscess is important in connection with the possibility of pyæmia after enteric fever.

Urethral Fever—The Use of Aconite and Morphine.—In a report of his hospital service (*New York Medical Record*) a case of urethral fever was alluded to by Dr. Weir. It was of that form which occurs when the urine passes over the cut surface for the first time, rarely before. In such instances the temperature may rise to 104°, 105°, or 106°, rapidly falling the next day. To prevent this rise, aconite and morphia are to be given in doses of three to five minims of the former to one-eighth of a grain of the latter. This is to be repeated after a lapse of two hours, and, if necessary, a half dose may be given at the end of two hours more. This is done because the fever is nervous and due to irritation communicated from the wound to the nervous plexuses supplying the kidney. Dr. Weir's experience with quinine in these cases has been rather negative.

The Fluorides in Medicine.—Dr. J. M. Da Costa (*Archives of Medicine*) has been making some experiments with the salts of fluorine. Fluoride of potassium, of sodium, and ferrous fluoride were the preparations chiefly tested. The fluoride of potassium was best borne and more used. This was given in doses of two or three grains. It was first given in a case of subacute rheumatism with considerable pain. The pain was considerably relieved without producing drowsiness. Gastric disturbance soon set in, however, and the drug had to be stopped. In other cases of rheumatism like effects were produced.

Reviewing the experiments, Dr. Da Costa says that the fluorides, especially the fluoride of potassium, in large doses are prompt emetics without depressing. They seem to relieve pain without producing sedation or sleep. They cannot be given long without producing gastric trouble. Their most singular effect, which is manifest especially with the iron salts, is the anorexia that is produced even by small doses. It is suggested that they may be of use in boulimia, or to counteract the craving for drink. On the whole, however, it seems unlikely that their therapeutic usefulness will be great.—*New York Medical Record.*

The Treatment of Ranula.—An important discussion took place before the Société de Chirurgie on the treatment of ranula, in which nearly all the members took part. M. Deleus recited a case in which the cyst was excised and cauterized, but at the end of two months it returned. This fact, he believed, resulted from the migration of the sublingual ranula through the muscular fibres of the floor of the mouth and developing a cyst in the buccal cavity. M. Trelat for many years excised with the scissors in the case of small ranulæ, and where they were more voluminous he treated them by puncture and the injection of iodine. M. Després treated every kind of ranula by the drainage, and always with success. M. Verneuil observed that he tried many methods in the treatment of ranula, but with varied success. He adopted the plan of slow section, for which purpose he passed a curved needle charged with a double thread of silver wire through the cyst, and united both ends in a firm knot. In five or six days the section was effected. M. Labbé did not doubt the success obtained by M. Després by his method, but he considered that to keep a seton in the mouth for six months to cure a ranula constituted a verita-

ble infirmity. M. Després, in replying, said that he never knew a patient to complain of it. M. Le Dentu said that M. Auger employs the injection of two drops of chloride of zinc in the deliquescent state into the cyst without previously evacuating it. This treatment always succeeds; there follows a sharp inflammatory reaction, but it is by no means dangerous. The inflammation subsides in five or six days, and at the end of ten days the cure is complete. For small ranulæ one drop of the liquid suffices, and if the cyst is very voluminous it is preferable to draw off a little of the contents before introducing the chloride of zinc. M. Gilette could not agree with M. Le Dentu in considering that chloride of zinc was not attended with danger and that it was always successful. He had seen M. Auger at the Hôpital Beaujon inject three drops and the pain was so intense that the patient tried to jump out of the window; and after all the cyst returned and was eventually excised.—*Medical Press and Circular.*

Dry Dressings with Powdered Salicylic Acid.—The good results obtained in the treatment of ulcers, wounds, etc., by the application of powdered iodoform, have led to a similar series of experiments with powdered salicylic acid at the surgical clinic of Erlangen. The method, as described by Schmid, is very simple. The wound is first carefully cleansed and disinfected with a five per cent. solution of carbolic acid. Where practicable, sutures are applied and the closed wound covered with a layer of very finely pulverized salicylic acid, one-half centimetre high and sufficiently extensive to overlay the wound one centimetre in every direction. Excavated wounds, after being cleansed, are carefully plugged with acid, and then likewise powdered, and the whole protected by a piece of antiseptic gauze or salicylated cotton. Wounds thus treated secrete only a small amount of wound-serum, which coalesces with the dressing so as to form an adherent crust. No smell of decomposition manifests itself: on the contrary, several wounds of long standing were thoroughly deodorized by this method, after ordinary Listerian dressings had been ineffectually employed. At the same time the temperature of the patient, if elevated, sinks as much as 2° C. or more. As the dressing appears to promote a luxuriant growth of granulations, it is more applicable to excavated than to surface wounds.—*Deutsche Zeitschrift f. Chirurgie*, Bd. xiv.; *New York Medical Record.*

The Treatment of Neuromata by Enucleation.—Mr. E. Downes, in the *Lancet*, April, 1881, suggests that in many cases of nerve-tumor the morbid mass may be shelled out by a longitudinal incision, instead of excising the growth with a portion of the nerve itself, or amputating the limb, as in some cases has been done. Three cases are related in which this mode of treatment was successful, the nerve-fibres completely surrounding the tumors, which lay in the centre almost entirely unconnected with the nerve itself. In one case, in which a neuroma of the median nerve was treated by excising the mass with the included portion of the nerve, a large number of smaller neuromata spontaneously disappeared after the larger one was thus removed. [Prof. Kosinski narrated a somewhat similar case (*Medical Times and Gazette*, November, 1874, p. 558); here, after a neuroma of the small sciatic had been excised, a large number of similar tumors spontaneously disappeared.] —*London Medical Record*, June 15, 1881.

Tuberculosis of the Mammary Gland.—An authentic case of this exceedingly rare affection is reported by Le Dentu, in the *Revue de Chirurgie*, No. 1, 1881. The patient, a girl of twenty-two years, who had suffered from scrofulous diseases in her youth, was treated in February, 1879, for a chronic abscess of the left breast, which healed after incision and drainage. One year later the same breast became uniformly enlarged, and had to be removed by amputation. On examination it was found permeated with abscesses lined with fungous masses, and containing tubercles possessing all the characteristics of this neoplasm.—*New York Medical Record.*

Resection of Large Trunk-Veins.—Pilzer opposes strongly (*Deutsch. Zeitschr. für Chir.*, Band xiv. Heft 21) the prejudice against ligature of large veins, citing recently-recorded cases to prove that the fear of pyæmia is groundless. He gives in detail six cases from the Heidelberg surgical clinic. In all six, malignant disease was present; and the internal jugular vein was resected in four cases, both internal jugulars in another, and the femoral vein in the sixth. All the cases recovered. Resection of the vein is much to be preferred to the dissection of it out of the tumor, with the great risk of recurrence of the tumor from fragments left on the vein.—*British Medical Journal*, May 7, 1881.

Trigeminal Neuralgia.—Dr. Seifert (*Berlin. Klin. Wochensch.*, 1881, No. 11) publishes three cases of trigeminal neuralgia in which he successfully employed compression of the carotid, as recommended by Gerhart. The compression was made to last from fifteen seconds to one and a half minutes, and repeated as often as the pain was interrupted, while arsenic and quinine were likewise administered. Gradually the intervals were lengthened.—*London Medical Record.*

MISCELLANY.

Our Medical Literature.—At the last International Congress Dr. Billings, of Washington, was honored by a very considerable

audience to listen to his address on "Our Medical Literature," and fully rewarded were all who managed to escape the pomps and vanities elsewhere, or the labors of the Sections, by hearing one of the most able, exhaustive, and certainly the most racy oration of the Congress. Of course the subject was attractive and capable of profound elaboration, and, as editor of those magnificent volumes now being compiled for the Surgeon-General's Office at Washington, Dr. Billings was *facile princeps*, and succeeded most admirably.

He estimated that one-thirtieth part of the world's literature belongs to medicine and the allied sciences, medical literature owning 120,000 volumes and twice as many pamphlets, with a yearly increase of 1500 volumes and 2500 pamphlets. Of the 180,000 educated medical men scattered over the world, 11,600 contribute to this mass of literature, the United States having the larger actual percentage, and England being outdone by the Germans and French, as well as by the Americans. Reckoning, however, the number of physicians in each country, France shows the greatest and the United States the smallest proportion. Referring to the short lives of most new medical journals, he adduced figures to show that in 1880 there were 24 deaths and 78 births. But Great Britain (John-Bullish even here) "is the most stable of all;" her old journals being on very secure foundations, and new ones not often started.

On the subject of general medical literature he remarked that in days of old, when the profession of medicine, or of a single medical specialty, was an inheritance in certain families, a large part of their knowledge and the efficiency of their remedies was thought to depend upon these being kept a profound mystery. Among the precepts of magic there was no more significant one than that which declared that the communication of the formula destroyed its power, and that hence attempts to reveal the secret must always fail. We have changed all that. Every physician hastens to publish his discoveries and special knowledge, and a good many do the same by that which is not special, or which is not knowledge. For the individual in a degree—for the nation or the race in a much greater degree—the literature produced is the most enduring memorial. And thus in our great medical libraries each of the folios or quaint little black-letter pamphlets which mark the first two centuries of printing, or of the cheap and dirty volumes of more modern days with their scrofulous paper and abominable typography, represents to a great extent the life of one of our profession and the fruit of his labors, and it is by the fruit that we know him. The learned orator concluded his address with a trite verse from the Talmud, which reminds one of the first aphorism of Hippocrates: "The day is short, and the work is great; the reward is also great, and the master presses. It is not incumbent on thee to complete the work, but thou must not therefore cease from it."—*Medical Press and Circular.*

"Pain-Killers."—Prof. A. B. Prescott, of the University of Michigan, in an interesting paper on "Nostrums," read at a State sanitary convention, and since printed in *The Physician and Surgeon*, thus refers to one of the more harmless kinds of these quack preparations, the "Pain-Killers":

Few of them are wholly inert, and most of them have a transient stimulant effect. Of *eight* of them subjected to analysis, six were found to contain the ordinary spirit of camphor, which every thoughtful mother keeps in the house; three contained ammonia, such as any hartshorn-bottle would furnish; four were charged with red pepper; all had some alcohol; oil of sassafras was found in four of them, oil of turpentine in two of them, tincture of guaiac in two, chloroform in one, and myrrh in one. One of the most successful contained in a half-dollar bottle one and a half fluidounces of soap liniment, with one-half fluidounce each of capsicum tincture, ammonia water, and alcohol,—in all, four articles of the United States Pharmacopœia. One that was sold at a dollar for a four-ounce bottle, by a Chinese doctor who had studied many years in the Celestial Kingdom, and who visited the towns of Michigan in a gorgeous car drawn by four horses, with a company of musicians and a lecturer, consisted of camphor spirit, lavender compound spirit, ammonia water, sassafras oil, and alcohol. One made and sold in Germany as Nature's Own Cure, a sure relief for one hundred and sixty-six different diseases, consists of red-pepper tincture, ammonia, and alcohol. Another, noticed since grouping the eight articles, is a Five-Minute Fragrant Pain Cure, that will quiet every ache within five minutes by an exact timepiece. It is a mixture of ether, glycerin, common salt, and water. A Golden Wonder, or Seven Seals, for all the ills liable to occur in this life, is a mixture of ether, chloroform, camphor, peppermint oil, red pepper, and alcohol. Nearly all of these articles are directed to be taken internally, as well as applied externally. Now, almost every person would have some judgment as to how much of ammonia, or turpentine, or camphor, or ether, or strong alcohol, it would be safe to take at once, if to be taken at all, in seeking relief from a violent pain; but what judgment can anybody have as to a safe quantity of such talismanic articles as "Ready Relief," "Wizard Oil," or "Magic Master of Misery"? —*Boston Journal of Chemistry.*

An Anæsthetic Car.—A correspondent of the *British Medical Journal* gives the following description of Bert's anæsthetic car for giving nitrous oxide and compressed air. "I was at the St. Louis Hospital one morning;

the car was there, and some operations were to be done in it. We—the patient, doctor, and his students—went into the car; the door, air-tight, was closed, and air forced into the car; in a few minutes my ears began to feel strange, and I was told to swallow, yawn, and blow my nose, which I did every few minutes, and so made the pressure equal on both sides of the drums of my ears. The patient laid himself down on the operating-table, and the anæsthetic agent was given him. He took it very quietly, did not struggle, and was soon insensible. Whilst he was unconscious, an epithelioma was removed from his lower lip; after the wound was sewn up, the compressed air was allowed to escape; the patient got up from the table, walked out of the car, and lay down on the grass; he complained of no headache nor nausea, but said he felt just as usual. We also were glad to escape from the car, on account of the heat, which was very intense. During the operation all the assistants and the surgeons pulled off their coats and waistcoats, and yet they perspired very freely. The car is on wheels, and is carried about from hospital to hospital: the hospitals being under government, the car is a public one, and is taken all over Paris." —*New York Medical Record.*

ZOEDONE.—The English chemists have lately been giving a good deal of attention to the making of "temperance" beverages, among which *zoedone* is one of the most popular. This is an effervescing phosphorated ferruginous water, which was invented and patented some three years ago by David Johnson, F.C.S. It is described as a most pleasant and refreshing drink, in which the peculiar iron taste is said to be very successfully masked by a peculiar flavoring syrup, which alone is kept a secret. The quantities of the active ingredients in each small champagne-bottle are given by the patentee as follows:

Calcii phosphas, grs. $2\frac{1}{2}$;
Ferri phosphas, gr. 1;
Potassii phosphas, gr. $\frac{1}{5}$;
Sodii phosphas, gr. $\frac{1}{12}$.

—*Boston Journal of Chemistry.*

THE FASHIONABLE BEVERAGES.—Dr. Myrtle, in a paper on gout (*Medical Press and Circular*), says, "In conclusion, let me say a few words on a new tap opened for the sole benefit of the thirsty public. I shall be curious to watch what may happen during the next ten years after we have got our systems fairly saturated with those marvellous drinks which Limited Liability introduces to us, those beautiful, sparkling, refreshing, and invigorating beverages at 5*s.* 6*d.* per dozen, more agreeable than champagne, and, in my opinion, a hundredfold more injurious. In those trashy compounds I believe we shall find a new source of dyspeptic torments and an additional factor of gout. I once was bullied into tasting some stuff with a fine-sounding name and gorgeous get-up: from the little sip I took, I can honestly advise every one who has any respect for his inside to avoid all drinks whose names, whatever their beginnings, end with the letters INE, ONE, or ADE, and stand by the good old-fashioned beverages of our youth. If stimulants are to be taken,—and I believe to a certain extent they are necessary,—you will find sound beer, good wine, and old spirit more wholesome, more suitable to the climatic conditions under which we live, than any other, and not one whit more gouty."

NOTES AND QUERIES.

A MODIFICATION OF MARTIN'S RUBBER BANDAGE.

J. J. L. applied to me July 20 for treatment for a large varicose ulcer on the internal aspect of the right leg. On my proposing to apply a Martin's bandage, he demurred, on the ground that he had tried one formerly,—that, owing to the confinement of the perspiration, his leg was in a constant water-bath, and the heat, itching, and pain were unendurable. I had before felt the force of this objection, and have no doubt but that this has been the greatest obstacle to the successful employment of this bandage in a large class of cases.

It occurred to me that the desideratum—ventilation—might be attained by perforating the bandage without sacrificing in other respects its usefulness. In pursuance of this plan, I procured an ordinary shoe-punch and riddled the bandage with holes,—about nine to the square inch. By punching three or four thicknesses at once, the labor was considerably facilitated.

This bandage was applied with entire success. Ventilation is perfect. The leg feels cool, dry, and comfortable, and at this date the ulcer has almost entirely healed.

JOHN S. LEWIS, M.D.

DUBUQUE, IOWA, August 17, 1881.

TRI-STATE MEDICAL SOCIETY.

OFFICE OF SECRETARY, MITCHELL, IND., August 18, 1881.

THE Seventh Annual Meeting of the Indiana, Illinois, and Kentucky Tri-State Medical Society will be held in the city of St. Louis, Mo., Tuesday, Wednesday, and Thursday, October 25, 26, and 27, 1881.

The Profession of the "Mississippi Valley" are cordially invited to attend.

G. W. BURTON, Secretary.

Medical journals please notice.

DR. H. C. WOOD has returned from Europe, and has removed his residence to 1925 Chestnut Street.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM SEPTEMBER 4 TO SEPTEMBER 17, 1881.

BROWN, P. R., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for one month. S. O. 210, A.G.O., September 13, 1881.

SKINNER, J. O., CAPTAIN AND ASSISTANT-SURGEON.—To proceed to Fort Verde, A.T., and report to the Post-Commander for duty as Post-Surgeon. S. O. 101, Department of Arizona, September 2, 1881.

REED, WALTER, CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty with Light Battery "A," Second Artillery, ordered to leave Washington Barracks, D.C., on September 20, and march to Yorktown, Va. S. O. 165, Department of the East, September 16, 1881.

BURTON, H. G., CAPTAIN AND ASSISTANT-SURGEON.—To accompany Light Battery "C," Third Artillery, as Medical Officer, on its march from Fort Hamilton, N.Y., to Yorktown, Va., *via* Trenton, N.J., Philadelphia and Columbia, Pa., Baltimore, Md., and Washington, D.C., and remain with it until further orders. S.O. 163, Department of the East, September 14, 1881.

INDEX.

Aaronson, Lizzie, case of, 591.
Absorption, influence of temperature on, 604.
Acarus, undescribed, inflammatory disease of skin from, 52.
Acne voracea, 286.
Aconitia, crystallized, in facial neuralgia, 479.
Actinomeris helianthoides, 127.
Adirondacks, 813.
Agnew, D. Hayes, 300.
  Surgery, review of, 506.
Agreement to pay doctor not binding, 526.
Air-cysts in cervix uteri, 797.
Albany Medical College, prizes of Alumni Association, 767.
Alcohol, 647, 655, 667, 805.
  action on digestion, 160.
  action on viscera, 686.
  discussion on, 698.
  effects of prolonged use of, 686.
  general distribution of, 592.
  physiological action upon the circulation, 44.
  poisoning, 417.
Alcoholic baths, influence of, on skin, 191.
Alcoholism, 687.
  treatment and symptoms of, 438, 687.
Allen, Harrison, 613.
Allocheira, 800.
Alopecia from nervous shock, 575.
Alumni societies, 305.
Alveolar sarcoma of the femur, case of, 631.
American Dermatological Association, 790, 818.
  Transactions of, review of, 634.
American Medical Association, 527.
American Otological Society, 704.
Ammoniacal salts, value of, in diabetes, 204.
Amyl nitrite as a disinfectant of urine, 479.
Amyloid degeneration, 202.
Anæmia of children, parasitic, 563.
  pernicious, 319, 806.
  strychnia in, 575.
  treatment of, 635.
  various forms of iron suitable in the, 574.
Anæsthesia, 562.
  reflex, 659.
Anæsthetic agent, compounds of ethylene as an, 518, 553.
  car, 832.
Anæsthetics, death from, 545.
  discussion upon, 567, 571.
Anatomical preparations, 268.
Anders, J. M., 803.
Aneurism of aorta, galvano-puncture, 93.
  of innominate artery, 211.
Aniline-poisoning, 347.
Ankle, compound comminuted fracture of, with luxation, 187.
  compound dislocation of, 718.
Anorexia, recipe for, 575.
Antagonism of quinine and atropin, 60.
Anthracæmia, 102.
Anthrax, earth-worms and, 766.
  experiment with the bacteria of, 592.
Antisepsis, 672.
Antiseptic, eucalyptus oil as an, 404.
  preparations, 51.
Anus, artificial, 826.
Apomorphia, 711.
  as an expectorant, 561.
Apoplexy, 55, 671.
Apothecary's prayer, 607.
Argyria from frequent pharyngeal applications of the nitrate, 479.
Arsenic in sickness of pregnancy, 797.
  test for, in wall-paper, etc., 95.
Arsenical paralysis, 385, 614.
Arteries, inflammation of, 541.
Articulations, treatment of diseased, 495.
Ascaris lumbricoides, perforation of membrana tympani by, 190.
Ashhurst, Jr., John, 170, 782.
Aspidospermin, 476, 590.
Assafœtida, resorcine a derivative of, 404.
Assault and battery, charge of physician with, 511.
Asthma, 672.
  iodide of ethyl in, 606.
  iodine in, 446.
  nitre in, 807.
Astringents, vegetable, 588.
Atkinson, W. B., Therapeutics of Gynæcology, review of, 157.
Atlantic City as a winter health-resort, 161.
Atlas of Anatomy, review of, 158.
Atropia, 736, 826.
  for relief of pain, 222.
  in chloroform anæsthesia, 123, 189.
Atropin and quinine, antagonism between, 60.
  in chloroform-poisoning, 123.
Auditory meatus, foreign bodies in, 23, 604.
  hemorrhage from, 402.
  sebaceous tumor of, 636.

Baby-carriages, 235.
Backache, 448, 480.
Bartholow, Roberts, 647.
  Antagonism between Medicines, review of, 601.
  Medical Electricity, review of, 703.
  Practice of Medicine, review of, 27.
Barwell, Richard, Diseases of the Joints, review of, 601.
Basal ganglia, hemorrhage into, 41.
Battery, Fauré's secondary, 767.
Beale, L. S., Slight Ailments, review of, 120.
Beard and Rockwell on Electricity, review of, 319.
Belfast Workhouse, infant mortality in, 31.
Belladonna in sickness of pregnancy, 797.
  poisoning treated by pilocarpin, 637.
Bellevue Medical College, 405.
Benedikt, Moritz, Anatomical Studies of the Brains of Criminals, review of, 703.
Benzoate of calcium in twin pregnancy, 760.
Beri-beri, 256.
Beverages, fashionable, 832.
Bigg, Robert Heather, Orthopragms of the Spine, review of, 733.
Bilharzia hæmatobia, 498.
Biliary calculi, expulsion of, 93.
Bismuth, phosphate of, 240.
Bitot, Placental Hemorrhage, review of, 540.
Bitter almonds, poisoning by, 799.
Black, J. J., 492.
Black urine, 446.
Blackwell, E. T., 107, 140, 776.
Blackwood, W. R. D., 3, 102, 449.
Bladder, absorption by mucous membrane of, 269.
  drainage in operation for stone, 561.
  excision of, in dogs, 736.
  foreign body in, 55.
  hernia of, 440.
  treatment of catarrh of, 128.
  wounds of, 380.
Blindness, hysterical, 285.
Blood-poisoning, 64, 159.
Blood-vessels, 353.
Boardman, C. H., 523.
Bones, luxation of, 89.
Boracic acid in skin diseases, 62.
Borate of quinoidine, 786.
Bosworth, F. H., Diseases of Throat and Nose, review of, 441.
Brachial artery, ligation of, 600.
  plexus, neuritis of, 289.
Brain, abscess of, in fœtus, 465.
  foreign substances introduced into, with impunity, 638.
Breast, cancer of, statistics, 416.
  cystic tumor of, 595.
Bright's disease, 349.
  state of the ganglionic centres in, 127.
  treatment of, 142.
Brodie, Sir Benjamin, death of, 224.
Bromide of potassium, 672.
Bromides in epilepsy, 444, 828.
  in travelling, 799.
Bromidrosis, 285.
  of feet, cause and treatment of, 94.
Bronchitis, 345.
Bronchocele, 280.
  fluoric acid in, 606.
Bruen, E. T., 97, 487, 513.
Bryant, Thos., Surgery, review of, 283.
Buchanan, John, 254.
Buck, A. H., Ear Diseases, review of, 248.
Bullets, location of, by electricity, 804.

Caffein citrate, action of, 794.
Calamine lotion, 639.
Calcium sulphide, treatment of empyema with, 74.
Calculus in scrotum, 622.
  large vesicular, 598.
Callus, painful, 320.
Camphor, salicylated, action of, 336.
Can a man graduate without seeing a case? 576.
Cancer, 209, 210.
  of stomach and liver, 596.
  statistics of, 416.
  treatment of, 478.
Cannabis indica, 430.
Canquoin, Dr., death of, 480.
Cantharidin, 427.
Carbolic acid, 113, 735, 796.
  eruption from dressing of, 52.
  in erysipelas, 455.
  in malignant pustule, 464.
  poisoning, convulsions in, 403.

Carbuncle, treatment of, 606.
Carbuncular affections, chlorate of potassium in, 56.
Carlsbad treatment, the, 472, 487.
Carotid, erosion of, 402.
Carrier, F. H., 264.
Cartwright prize, 543.
Castillo, J. D., 44.
Castor oil, inunction of, 255.
Castration for hysteria, 127.
Cellular tissue, treatment of effusions of blood into, 114.
Centenarians, 128, 286.
Cerebellar abscess, 68.
Cerebellum, partial softening of, 398.
tumor of, 243, 275.
Cerebral ganglia, anatomy and lesions of, 597.
substance, rabies inoculated by, 704.
Cerebrum, softening of, 398.
Cervix uteri, air-cysts in, 797.
laceration of, 619.
Chafe, remedy for, 768.
Chancre of cervix uteri, diagnosis of, 400.
seat of, 222.
Charcot, J. M., Diseases of Old Age, review of, 822.
Chaulmugra oil, 542.
Cheyne-Stokes respiration, 41.
Chian turpentine, characteristics of, 62.
Chilblains, 416, 445, 446.
Childhood, headaches of, 444.
Children, Diseases of, review of, 572.
insufficient nourishment of, 65.
Chloral, 225, 445.
the taste of, 352.
Chlorate of potassium in hemorrhagic diathesis, 221.
poisoning, 287, 447.
Chloroform anæsthesia, atropia in, 189.
death, 256.
poisoning, 123.
Choked disk, 264.
Choleraic diarrhœa, treatment of, 222.
Chorea, arsenic in, 811.
treatment of, 828.
Choroiditis, 285.
Chronic ulcers of the leg, treatment of, 50.
Chrysophanic acid, constitutional effect of, 605.
in psoriasis, 575.
Cicatrices, 785.
Cinchona-trees, destruction of, in Jamaica, 224.
Cinchonidia, salicylate of, 572.
Circulation, physiological action of alcohol on, 44.
Cities, water-supply of, 159.
Citric acid, 448.
synthesis of, 255.
Clavicle, dislocation of, 440.
fracture of, 279.
Climate, physiology of, 390, 422.
Club-foot, 439.
treatment of, 25, 185, 279.
Coburn, G. H., 139.
Coca wine, 732.
Coccygeal anchylosis, 252.
Cod-liver oil and iodoform, 576.
palatable, 575.
Cœliac axis, aneurism of, 272.
Coffins, wholesale distribution of, in Rome, 608.
Cold cream, 447.
Colitis, pseudo-membranous, 31.
Colleges, bogus medical, 32.
Collodion, action on temperature, 239.
Colon, cancerous stricture on, 700.
Color-blindness, 12.
Comfort, A. J., 398.
Conium maculatum, physiological action of, 113, 239.
Conjunctiva, hairy papilloma of, 316.
Conjunctivitis, purulent, 91, 95.
Consulting-room, secrets of, 147.
Consumptives, what can Minnesota do for? 84.
Convallaria majalis, 806
Convulsions, 403.
Cookery, 320.
Copper-poisoning, chronic, 457.
Copyright of lectures, 672.
Corrigan's button, 446.
Coto, cotoin, 476.
Cotton, absorbent, 478.
medicated, 57.
Cough-sedative, hypodermic injection of ergotin as a, 382.
Coulson on Diseases of the Bladder, review of, 635.
Cowling, R. O., Aphorisms in Fracture, review of, 603.
death of, 480.
Cowperitis, diagnosis of, 268.
Coxalgia, 781.
Cranial base, etiology of fractures of, 33, 57.
nerves, paralysis of, in congenital syphilis, 190.
Creasote, 146.
Crédé's method, 238.
Criticism, medico-dramatic, 480.
Croom, J. H., Minor Gynæcological Operations, review of, 122.
Croton oil, 445.
premature labor induced by, 370.
Croup, membranous, relations to diphtheria, 492.
treatment of membranous, 671.
Crus cerebri, hemorrhage into, 48.
Currie, Charles A., 781.
Cystitis, diagnosis of, 268.
nitrite of amyl in, 336.
treatment of, 80.

Da Costa, J. M., 385, 614.
Medical Diagnosis, review of, 282.
Day, William Henry, 572.
Dead bodies, preservation of, 768.
Deaf-mutes, 64.
Death during etherization, 207.
Deems, Frank M., Urinary Analysis, review of, 443.
Defective hearing, Turnbull's monograph on, 384.
De Hery, Thierry, anecdote of, 352.
Delirium tremens, 430.
Dennison, Charles, Rocky Mountain Health Resorts, review of, 344.
Dental nerve, partial excision of, for neuralgia, 598.
Dermatitis, acute vesicular and pustular, 586.
Dermatology, Professorship of, in the University of Vienna, 416.
Diachylon ointment, 494.
Diaphragmatic hernia, 108.
Digitalis and colchicum, fluid extract of, 352.
discussion upon, 629.
Diphtheria, clinical lecture on, 769.
pilocarpin in, 462.
production of, in lower animals, 53.
sudden death in, 400.
treatment of, 139, 251, 252.
Disinfectant of urine, nitrite of amyl as a, 479.
Donations to medical objects, 416.
Drainage-tubes, 285.
Dressings, permanent, 624.
Drop doses, 350.
Druggist, duties of, 409.
relations of, to doctor, 290.
Duboisia, poisoning by, 189.
Duboisin, 476.
Ductus choledochus, polypus of, 624.
Duhring, L. A., 395, 494.
Atlas of Skin Diseases, review of, 27, 249, 733.
Diseases of the Skin, review of, 318.
Diseases of the Skin, translation of, 416.
Dulles, Charles W., 617.
"What to do First," review of, 603.
Dura mater, headache dependent on disease of, 412.
Dye-stuffs, poisonous, 46.
Dysentery, old treatment of, revived, 575.
Dysmenorrhœa, treatment of, 321.
Dyspepsia, 146.
Dyspnœa, quebracho in, 404.
Dyspnœic uræmia, 621.

Ear, epilepsy from foreign body in, 31.
Early maternity, remarkable case of, 576.
Ears, disease of, 459.
Echinococcus of mammary gland, 623.
Ectopia lentis, 280.
Eczema of infants, 255.
of leg, treatment of, 463.
vesiculosum of the hands, 588.
Edwards, J. F., Constipation, review of, 476.
Edwards, Jos., Bright's Disease, review of, 443.
Elbow, anchylosis of, 600.
complete excision of, 186.
primary excision of, 26.
pulsating tumor below, 187.
treatment of pulsating tumor below, 600.
Electricity in dysmenorrhœa, 3, 21.
in treatment of goitre, 449.
Elephantiasis, syphilitic, 447.
Elsberg, Louis, 693.
Embolism, fatty, 494.
Empiricism confirmed by science, 384.
Empyema, antiseptic treatment of, 284.
case of, 73.
reflex symptoms from operations for, 173.
resection of ribs in, 60.
Endarteritis obliterans, 695.
Endocarditis, fœtal, 93.
Epidermis, daily amount shed, 403.
Epididymitis, blennorrhagic, 462.
Epilepsy, 287, 444.
from fibroma of palmar surface of hand, 182.
from foreign body in the ear, 31.
nerve-stretching in, 404.
treatment of some forms of, 636.
Epistaxis, 320.
Epithelioma of foot, 213.
of tongue, 590.
Ergot, 722.
and chloride of ammonia in treatment of fibroid of womb, 188.
in varicose ulcers and eczema of leg, 463.
poisoning, 61.
Ergotin as a cough-sedative, 382.
Erysipelas, 201.
carbolic acid in, 355, 455.
complications of, 624.
internal, and of face, 82.
treatment of frequently-recurring, 639.
Esmarch's bandage, 15, 429.
new form of, 254.
Ether, death from, 159.
lethal effects of, 772.
spray in treatment of carbuncle, 606.
Ethics, 231, 245.
Ethyl bromide, 240.
iodide in asthma, 606.
Ethylate of sodium, 820.
Ethylene bichloride, 490.
compounds of, as anæsthetic agents, 518, 553.
Eucalyptus globulus as an antiseptic dressing, 799.
oil of, 94, 128.
as an antiseptic, 404.
Euonymin, 31.
Ewald, C. A., Digestion, review of, 827.
Exophthalmic goitre, 449, 797.
Expert testimony, defects in, 452, 523.
Eye, A. H. Kelch on the, 168.
some symptoms in and about the, due to uterine disease, 581.
Eyesight of school-children, 673, 723.

Face, sebaceous cyst of, 782.
Fæcal discharge, foreign substances in, 408.
False membrane from intestinal canal, specimen of, 631.
Fauré's storage battery, 767.
Feet, fetid, 252.
Femoral hernia, strangulated, 617.
Femur, extracapsular fracture of, 218.
fracture of, 196.

Fetid sweating, pilocarpin nitrate in, 404.
Fibroid tumors of the womb, radical treatment of, 188.
Fibroma of palm a cause of reflex epilepsy, 182.
Fiction and medicine, 639.
Figs, 320.
Filaria disease, 223.
Filix mas, 30.
Filth, what is it? 768.
Fish-bones, to remove, 352.
Fissure of anus, treatment of, 80.
Flat foot, 542.
Flint, A., Practice of Medicine, review of, 282.
Flint, Jr., Austin, Human Physiology, review of, 476.
Flower, W. H., Diagrams of Nerves, review of, 344.
Fluoric acid in goitre, 606.
Fluorides, 829.
Fomentations, hot, 416.
Food adulteration, 61, 160, 306.
Forbes, W. S., 353.
Foreign substances introduced into the brain with impunity, 638.
Fothergill, J. M., and H. C. Wood, Food for the Invalid, review of, 318.
Fox, George Henry, Photographs of Skin Diseases, review of, 28.
Fracture of axis, 92.
of jaw, etc., 331.
of palatine arch, 335.
Fremitus, pleuritic, 817.
Fuchsin, 348.
Furuncular affections, chlorate of potassium in, 56.

Gall-bladder, cancer of, 730.
Galvano-cautery battery, 749.
Gamgee, Arthur, Physiological Chemistry, review of, 281.
Gangrene, cutaneous, due to cachexia, 414.
Garretson, James E., Oral Surgery, review of, 538.
Gastrotomy, 127, 146.
Gelositis, 286.
Gelseminum, effects of large dose, 382.
Giant cells in tubercle, 204.
Gibbes, H., Practical Histology, review of, 282.
Gillespie, Jr., John, 457, 772.
Girls, weak spines in, 406.
Giulio, Prof., experiments of, 403.
Glaucoma, jaborandi in, 583.
Gluttony, 30.
Glycyrrhiza, 107.
Goitre, exophthalmic, 81, 495.
fluoric acid in, 606.
in pregnancy, 346.
treatment of, by electricity, 449, 749, 761.
Goodell, William, 77.
Gout, ointment for chronic, 240.
Gowers, W. R., Diagnosis of Diseases of the Spinal Cord, review of, 603.
Greene, W. H., Medical Chemistry, review of, 249.
Gross, S. D., John Hunter, review of, 344.
Gross, S. W., 380.
Impotence, Sterility, and Allied Disorders of the Male Sexual Organs, review of, 765.
Gunshot wound of median nerve, 95.
Guy's Hospital, 480.
Gynæcology, 115.

Hagan, Richard, Diagnosis of Disease, review of translation, 603.
Hair, changes of color in, 128, 716.
falling of, 32, 160.
Hale, Annie M., 90.
Hamamelis Virginica as a local application, 798.
Hamilton, F. H., Fractures, review of, 119.
Fractures of Patella, review of, 121.
Hamilton, Geo., 99.
Hammond, Wm. A., Diseases of the Nervous System, review of, 669.
Hammond, Wm. A., Hysteria, review of, 319.
Hand-Book for Coroners, review of, 343.
Harlan, G. C., 750.
Harrison, Reginald, 343.
Urinary Organs, review of, 827.
Hay, Geo., 457.
Headache, 412, 463.
Health Primer, Heart and its Functions, review of, 603.
Heart, globose vegetations of, 464.
malformation of, 124.
palpitations of, convallaria in, 806.
secondary deposits in, 590.
Heart disease and pregnancy, 82.
milk diet in, 348.
treatment of, 146.
with disease of liver and kidneys, 213.
Heath, Christopher, Minor Surgery, review of, 122.
Hebra's peculiarities, 64.
successor, 351.
Hepatic colic, diagnosis of, 82.
engorgement, 657.
Hermaphrodism, 828.
Hernia, result of radical operation for, 463.
Herpes, treatment of, 62.
Hip-joint amputations, specimens from, 472.
joint disease, 48, 503.
splint, new, 616.
Hoarseness, borax in, 287.
Hodge, J. Lenox, obituary of, 608.
Hoff's malt extract, 352.
Homatropin, 7, 74, 329.
Homœopathic granules, poisoning by, 190.
Hospital gangrene, 104.
stewards, 207, 367.
ward, anæsthetic, 606.
Humerus, enlargement of the head of the, 600.
muscular fracture of, 239.
Hunt, Wm., 198.
Hunter, Chas. T., 558.
Hutchinson, Jas. H., 687.
Hutchison, J. C., 481.
Orthopædic Surgery, review of, 157.
Hydrarthrosis, 64.
Hydrocele, 90, 782.
Hydrochloric acid poisoning, 735.
Hydrops articulorum intermittens, 811.
genu intermittens, 270.
Hygiene, report of committee on, 408.
Hygienic appliances, 616.
Hyoscyamin, 113.
Hyoscyamine sulphate as a mydriatic, 327.
Hypertrophy, arterial, from Bright's disease, 106.
Hypodermic syringe, improved, 408.
Hysterectomy, menstruation after, 114.
Hysteria, castration for, 127.
Hysterical epilepsy and chorea, 321.

Ichthyosis cornea of palm and sole, 464.
Ileus caused by lump of shellac, 465.
Iliac abscess, 781.
region, suppurating phlegmon of, 624.
Incubation, periods of, 797.
Incurables, care for, 206.
Indian hemp, 239.
Infant mortality, 31.
Infantile diarrhœa, sea-air in, 799.
Infants, artificial production of signs of defloration in, 200.
Hygiene and Education of, review of, 91.
Inferior maxilla, treatment of double fracture of, 52.
Ingluvin, 446.
Injury of face, unusual, 76.
Instruction, clinical, 468.
Instrument for measuring the vagina, 408.
Intelligence, a new test of, 640.
Intermittent articular swelling, case of, 334.
fever, sulphate of quinia in, 757.
prevention of relapse in, 757.
International Medical Congress, 787.
Intestine, expulsion of forty centimetres of, 561.
foreign body in, 448.
resection of about four feet of, 403.
Intestines, intussusception of, 561.
Intrathoracic growth, cause of peripheral nervous phenomena, 471.
Iodide of potassium, 672, 798.
Iodine, 446.
Iodoform, 159, 304.
Iodoform and cod-liver oil, 428, 576.
Irido-cystitis, plastic, 460.
Iris, flaccidity of, a sign of death, 95.
Iron, hypodermic administration of, 590.
perchloride, result of application of, 576.

Jaborandi, composition of, 112, 113, 798.
in glaucoma, 587.
Jaborin, 160.
Jacobi, A., Treatise on Diphtheria, review on, 220.
Jamaica dogwood in neuralgia, 57.
Jaundice, ipecac in, 252.
Jenner, Stephen, home of, 416.
Johnson, A. H., 737.
Johnson, L., Medical Formulæ, review of, 669.
Johnson, R. W., 129.
Joint-disease, tenotomy for, 301.
Joly, Jean-Louis-Simon, Phthisie Pulmonaire, review of, 602.
Journal, new French scientific, 640.
Journalism, independent, 373.

Kane, H. H., 225.
Drugs that Enslave, review of, 603.
Karlsioe, W. T., 257.
Kava-kava, 447.
Keating, John M., 167, 324.
Mother's Guide in the Management of Infants, review of, 793.
Keen, W. W., 13.
Kelch, A. H., 168.
Keloid, histology of, 786.
of the ear, 446.
treatment of, 429.
Keyser, P. D., 74, 583.
Kidney, amyloid, 658.
double cystic, with renal calculi, 189.
removal of, 703.
Kirkbride, T. S., Hospitals for the Insane, review of, 474.
Kittanning iron-spring, 77.
Knee, anchylosis of, 377.
gunshot wound of, 280.
stiff joint cured by forcible flexion, 457.
Knee-joint, amputation of, 196.
disease of, 471.
Koechlin, M. Maurice, 64.
Koumiss in chronic vomiting, 479.

Labia, polypous tumor of, 184.
Laboratory, new public, 480.
Lactic acid in catarrh of bladder, 128.
Landesberg, M., 10.
Landis, H. G., Use of Forceps, review of, 317.
Lane, J. R., Lectures on Syphilis, review of, 601.
Laparotomy in pregnancy, 145.
Lard, substitutes for, 704.
Larrabee, John A., 769, 803.
Laryngeal nerve, injuries of inferior, 693.
stenosis, 428.
Larynx, fatty tumor of, 191.
Laudanum, poisoning by, 779.
Laws, insanity, 83.
Lead-poisoning from use of cosmetics, 574.
Lee, Benjamin, 332, 616.
Lee, John G., 343.
Leffmann, Henry, 46, 652, 756.
Leg, sarcoma of, 782.
Legg, J. Wickham, Examination of Urine, review of, 443.
Leprosy in the United States, 384.
Leroy, A., De l'Etat de Mal Epileptique, review of, 476.
Lessing, F., 238.

Letter, London, 18, 86, 177, 242, 309, 374, 435, 500, 564, 664, 724, 787.
Leucoderma, natural history of, 574.
Leucorrhœa in children, treatment of, 573.
Levick, James J., 817.
Levis, R. J., 108, 196.
Library of College of Physicians, 338.
Ligation of subclavian artery, 92.
Ligature, catgut, 382, 433.
Lindsay, Wm. L., death of, 320.
Liquor amnii, source of, 638.
ergotæ purificatus, 238.
Little, W. S., 12, 581.
Little, W. F., 329.
Liver, cancer of, 274.
cancer of stomach and, 596.
cirrhosis of, with softening of brain, 277.
movable, 543.
Local anæsthesia, 240.
inflammation, inunction a remedy for, 798.
Locomotor ataxia, 125, 722.
and syphilis, 574.
phosphide of zinc in, 384.
Longevity, 447.
Low temperature, remarkable case of, 638.
Lumbago, chloroform in, 254.
Lung, epithelioma of, 285.
fibroma of, 496.
syphilitic affections of, 415.
Lupus vulgaris, treatment of, 112.
Lymphatics, cancer of, 146.

McClellan, Ely, 333.
Mackenzie, Morrell, Diseases of the Throat, etc., review of, 28, 122.
Macnamara, C., Diseases of Bones and Joints, review of, 827.
Malaria in young children, 721.
Malarial fever, pernicious, 577.
Male organs, movable atlas of, 384.
Malformations, 256.
Malpractice, surgical, suits for, 241.
Maltine in phthisis, 63.
Mammary gland, scirrhus of, 23.
gland, tuberculosis of, 830.
tumor, 181.
Marriage laws, 128.
Maryland, University of, 498.
Massage, 123, 657.
Masturbation in female infant, 218.
Maternal impressions, 32.
Mediastinum, differential diagnosis of tumors of, 172.
symptomatology of tumors of, 171.
Medical College Association, American, 607.
Medical colleges, commencements of, 415.
Medical Congress, International, 415.
Medical education, 30.
examiners, county, 431.
journals of the world, 287.
legislation, 205.
literature, 831.
men, mortality among, 128.
night-service in Paris, 224.
reform, 63.
societies, 660.
Medicine and fiction, 639.
Medicines, disagreeable, 524.
Medico-Chirurgical College of Philadelphia, 432.
Melœna in a new-born infant, 624.
Membrana tympani, perforation by ascaris lumbricoides, 190.
Membranous croup, treatment of, 716.
Ménière's disease, 427.
Meningitis, tubercular, 414.
Menstruation at seven months, 240.
recurrent parotiditis in connection with, 372.
Mercurial stomatitis, prevention of, 173.
Mercury, absorption of metallic, 525.
hypodermic injection of, in syphilis, 336.
Mesentery, removal of tumor from, 146.
Microbes, 255, 510.
Microscope, judicious use of, in medical practice, 193, 208.
Microscopical Technology, Compendium of, review of, 571.
Milk diet, 146.
indigestion, 765.
intravenous injection of, 477.
sugar of, as a medicine, 465.
Millikin, B. L., 76.
Mills, Charles K., 41.
Mitchell, C. L., 641.
Mitchell, S. Weir, Nervous Diseases of Women, review of, 571.
Mittendorf, V. F., Diseases of the Eye and Ear, review of, 669.
Moir, H. C., Practice of Medicine, review of, 602.
Morphia, hypodermics of, 776.
Morton, T. G., 301.
Movement cure, tabular results of, 332.
Muscles, plastic operations on, 526.
temperature of contracting, 719.
Muscular atrophy, 302.
Musser, J. H., 805.
Mutual aid association, 31.
Mycological serenade, 192.
Mydriatic, a new, 47.

Nævus, 285.
treatment of, 795.
Nancrede, C. B., 34.
Nasal bones, treatment of crush of, 55.
disease, diagnosis in, 613.
hypertrophies, new instrument for treatment of, 147.
polypus, ethylate of sodium in treatment of, 478.
Naso-cranial osteitis, 796.
Naval medical service of the United States, 499.
Neck, cysts of, 280.
Necrosis of radius, specimen of, 633.
Nematode, undescribed, found in human peritoneum, 204.
Nephrectomy, 283.
Nephritic colic, diagnosis of, 82.
Nephritis, albuminous, pilocarpin in, 402.
Nerve-stretching, 240, 270, 445, 525.
in epilepsy, 404.
tumor, 181.
Nervous disease, new silver salt in treatment of, 478.
phenomena, peripheral, due to intrathoracic growth, 471.
system, physiology of, 252.
Neuralgia, excision of portion of dental nerve for, 598.
facial, 285.
aconitia in, 479.
Jamaica dogwood in, 57.
symmetrical, in diabetes, 81.
Neurasthenia, 737.
New Brunswick Medical Law, 543.
Niemeyer, Text-Book of Practical Medicine, review of, 703.
Nipples, sore, 151.
Nitrate of mercury, acid, hemorrhage caused by, 23.
Nitric acid as a caustic, new method of applying, 573.
Nitrite of amyl in typhoid state, 167.
Nitro-glycerin, 348, 349.
No premium on folly, 469.
Nostrils, administration of medicine by, 768.
Nurslings, effects of drugs on, 735.
Nymphæ, hypertrophy of, 631.

Obermeyer, S., report of case of, 398.
Obstetrics, teaching of, 31.
Occipito-temporal convolution, destruction of, 274.
Odium scientificum, 287.
Ointments, soothing, 61.
Okie, R. B., 370.
Oldenberg, Oscar, on Metric System in Medicine, review of, 476.
Ophthalmia neonatorum, 91.
Opium and atropia, 286.
eruption, differential diagnosis of, 500.
in the infant, 446.
poisoning, indications in, 221.
treated (successfully), 221.
Organisms in typhoid fever, 202.
Orthopnœa, 734.
Ossification, 269.
Osteo-sarcoma of knee-joint, 632.
Osteotomy for rachitic curvature of bones, 589.
Ostitis, chronic, 114.
Otis, F. N., Clinical Lectures on Syphilis, review of, 602.
Otis, Geo. A., obituary, 405, 480.
Otitis, fatal case of, 750, 762.
Otology, American Journal of, review of, 156.
Archives of, review of, 157.
Ott, Lambert, 68.
Ovaries, triple, 252.
Ovariotomy, 77, 574, 639.
parotitis in, 145.
Oysters, 256.
Ozæna, treatment of, 62, 414, 428.

Packard, J. H., 231.
Pain-killers, 831.
Pancreas, cancer of, 803.
Papaytoin, 590.
Papilloma, congenital neurotic, 30.
Paracotoin, 476.
Paralysis agitans, 113.
arsenical, 365.
diagnosis between senility and senile general, 589.
Paralytic chorea, 636.
Paraphimosis, reduction of, 62.
Parasite in lepra, 336.
Paris, midwifery in, 447.
Parisian hospitals, autopsies in, 125.
Parker, R. W., 90.
Parotiditis, recurrent, in connection with menstruation, 372.
Parotitis, 639.
Patella, fracture of, 27.
hooks, 280.
Pearson, J., Typhoid Fever, review of, 540.
Penis, gunshot wound of, 219.
spindle-celled sarcoma in sheath of, 180.
Pennsylvania Hospital, 287.
treasurership of, 672.
Pepper, William, 290, 686.
Periostitis, phlegmonous, of vertebral column, 201.
Peritoneal cavity, transfusion of blood by, 561.
Perls, Dr. Max, obituary, 736.
Perspiration, excessive, faradic current in, 222.
red, 128, 248.
Perspiratory function of skin, influence of alcoholic baths on, 191.
Pharmacopœia, revision of United States, 17.
Pharyngitis, granular, 446.
Pharynx, anæsthetizing of, 270.
Phosphide of zinc in locomotor ataxy, 384.
Phosphorus and hypophosphite salts, 221.
Phtheiriasis pubis, 125.
Phthisis, 63, 315, 345.
acute caseous, 469.
pulmonalis, hygienic influence exerted on, by plants, 333.
Physical diagnosis, 513, 537.
Physician, duties of, 409.
Physiology, practical, 352.
Physostigma in belladonna-poisoning, 736.
Picrotoxin, action of, 203.
Pie, New England, 256.
Piffard, Henry G., Cutaneous Memoranda, review of, 249.
Pilocarpin, 110, 160, 251, 704, 716.
belladonna-poisoning treated with, 637.
hypodermic injections of, in pleuritic effusions, 52.
in diphtheria, 462.
nitrate of, 404.
Pine-wool clothing, 62.
Piracy, literary, 511.
Pirogoff, Prof., 608.
Pityriasis, glycerole of thymol in, 767.

Placenta, degeneration of, 407.
Plague, the, 640.
Plaster-of-Paris bandages, 430.
Pleurisy, case of, 370.
Pleuritic effusions, treatment of, 52.
Pneumogastric excision, 429.
Pneumonia, wet sheet in, 542.
Pneumothorax, 315.
Poisoning, chronic accidental, from arsenical wall-papers, 96.
Polli, Prof., death of, 32.
Polypodium incanum, 607.
Polypus, pharyngeal, resection of face for, 183.
Polyuria syphilitica, 798.
Pons, partial softening of, 378.
Pooley, T. H., 104.
Porro operation, 32, 250.
"Portagious" disease, 480.
Posterior nares, congenital closure of, 638.
Post-mortem examination no injury, 254.
Post-partum hemorrhage, 99, 147.
Potassium chlorate, dangers of, 604.
Potentization, 176.
Pott's disease, 497.
plaster-of-Paris bandage in, 369.
Poulet, A., Foreign Bodies in Surgical Practice, review of, 122.
Practice of medicine, bill for regulation of, 384.
Pregnancy, a sign of early, 31.
vomiting of, 127.
Premature labor induced by croton oil, 378.
Prentiss, D. W., 609, 716.
Prepuce, hypertrophy of, 181.
Prescriptions, duplicating of, 140.
English, 351.
Preserving fluid for meat, 639.
Prizes of the Surgical Society of Paris, 416.
Professional secrets, 337, 377.
Prolapsus ani, 285.
new method of treatment in, 96.
Prostatitis, 268, 641, 669.
enlarged tube in treatment of, 170.
gonorrhœal, 641.
Prostitution, new Paris regulations of, 606.
Prurigo, treatment of, 255.
Pruritus, 446.
vulvæ, 191, 509, 510.
Psoas abscess, fatal hemorrhage of, 380.
Psoriasis, chrysophanic acid in, 575.
in child under four years, 458.
Public, relations of profession to, 409.
Public schools of Philadelphia, weak eyes in, 673.
Puerperal fever, communicability of, 414.
Pulmonary diseases, effects of climate of Atlantic City upon, 161.
embolism, death from, 202.
phthisis, inhalations in, 798.
Purpura hæmorrhagica, 167, 372.
as a neurosis, 756.
Purgatives, administration of, by hypodermic injection, 798.
for consumptives, 204.
Pus, orange-colored, 428.
Pustule, malignant, treatment of, 464.
Pyelo-nephritis, case of, 609.
Pyrosis, treatment of, 201.

Quebracho, 404, 447, 476.
active principle of, 590.
in exophthalmic goitre, 797.
Quillaya, 30.
Quinia sulphate in intermittent fever, 757.
Quinine, absorption and elimination of, 403.
amaurosis, 543.
and atropin, antagonism of, 60.
annual production of, 288.
production of, in India, 127.
Quinoidine, prevention of relapse in intermittents by, 757.

Rachitic curvations of bones, osteotomy for, 589.
Radcliffe, S. J., 455, 779.
Radius, fracture of, 196.
fracture of lower end of, 26.
treatment of fracture of, 378.
Railroad crush of leg, 198.
Ranney, A. L., Anatomical Atlas, review of, 476.
Surgical Diagnosis, review of, 442.
Ranula, 829.
new operation for, 345.
Rattray, Alexander, 358, 442.
Ray, Isaac, obituary, 448, 466.
Raynaud, Dr. Maurice, obituary, 767.
Rectal alimentation, 224.
fistula, treatment of, 734.
Recto-vesical fistula with cystitis, use of tube in, 170.
Rectum, imperforate, 158.
removal of epithelioma of, 124.
stricture of, 15.
Reed, Boardman, 161.
Reese, J. J., 452.
Reichert, Edward T., 37, 77, 490, 553, 711.
Reflex eye-disorder, discussion on, 627.
urinary paralysis, 335.
Registry Law, Medical, 697.
Relapsing fever, 498.
choroiditis after, 285.
Relations between physicians and druggists, 383.
Remedies, new form of, for hypodermic use, 195, 208.
Remittent fever, 97.
Removal, 640.
Renal calculi with double cystic kidney, 189.
calculus, 22.
Reptiles, brain and spinal cord of extinct, 253.
Resorcine, 404, 605.
Resuscitation of the new-born, 252.
Retina, permanent pictures on, 479.
Reynolds, Dudley S., 140.
Rheumatism, acute, benzoate of sodium treatment in, 572.
acute articular, in child, 575.
treatment of, by ergotin, 203.
ointment for chronic, 240.
Ricinus communis, poisoning by, 240.
Ringworm of head, treatment of, 445, 767, 768.
use of thymol in, 590.
Risley, S. D., 327, 673.
Roberts, John B., 545.
Compend of Anatomy, review of, 220, 827.
Robinson, Beverly, Nasal Catarrh, review of, 157.
Rolleston, Dr. Geo., obituary, 800.
Roosa, St. John D. B., Ophthalmic and Otic Memoranda, review of, 220.
Rötheln, observations upon, 395.
Rumbold, Thomas F., Hygiene, etc., review of, 220.

Saint-Mandrier Hospital, treatment of tinea at, 50.
Salicylate of sodium, 304.
Salicylic acid, 255.
and camphor as a surgical dressing, 767.
as a dry dressing, 830.
some new uses of, 574.
Sanguis bovinis exsiccatus, 209.
Sanitary exhibitions, 736.
Sarcoma of skull, dura mater, and lower maxilla, 184.
of testicle, 339.
round-celled, 340.
secondary, after amputation, 218.
spindle-celled, in sheath of penis, 180.
subungual, 81.
Scaphoid bone, luxation of, 23.
Scarlatina, differential diagnosis of, 560.
Scarlatinal infection, 512.
Schell, Henry S., 7, 47.
Schuylkill water, 756, 764.
Sciatica, 730.
nerve-stretching in, 240.
Scleroderma, congenital, 79.
Scleroderma infantum, 447.
Sclerotomy in glaucoma, 10.
Scratch of lip, death from hemorrhage occurring in, 380.
Scrofula and tuberculosis, 336, 589.
new symptom of, 465.
Scrotal tumor, 440.
Scrotum, removal of, 821.
Searle, W. S., New Form of Nervous Disease, review of, 703.
Sea-sickness, treatment of, 95.
Seguin, Dr. E. C., death of, 128.
Seiler, Carl, 193, 571, 749.
Senility, diagnosis between senile general paralysis and, 589.
Shoulder, tumor of, 732.
Siamese twins, new pair of, 639.
Side, pistol-shot of, 656.
Simple atrophy, 65.
Skin, changes in color of, 128.
diseases, boracic acid in, 62.
grafting, 767.
trophic gangrene of, 811.
vaso-motor neurosis of, 812.
Skoda, Josef, obituary of, 608.
Skull, fracture of, 266.
Slander, law of, applied to physicians, 191.
Smallpox in fœtus, 429.
present epidemic of, 472.
Smith, Albert H., 744.
Smith, H. H., 235.
Smythe, Gonzalvo C., Medical Heresies Historically Considered, review of, 221.
Snowden, John W., 238.
Soap bark, 29.
Société Française de Hygiène, Paris, Education of Infants, review of, 91.
Sodium benzoate in treatment of acute rheumatism, 572.
ethylate in nasal polypus, 478.
salicylate, urticaria following use of, 372.
Solly, S. Edward, Colorado for Invalids, review of, 475.
Sphincter ani, paralysis of, 203.
Spina bifida, 14.
Spinal convulsions, pathology of toxic, 711.
Spine, fracture and dislocation of, 218.
Spines, weak, in young girls, 406.
Spleen, rupture of, 382.
syphilis of, 253.
Sponge tents, 248.
Sprains, treatment of, 96, 123.
Squint, convergent, 127.
Starr, Louis, 65, 577, 807.
Stelwagon, H. W., 458.
Sterility, alkalies in treatment of, 52.
Stillwell, W. C., 167, 524.
Stimulant, nitrite of amyl as a, 167.
Stomach, cancer of, 276, 596.
excision of, 384.
Streets, Thomas S., 73.
Strychnia in alcoholic poisoning, 254.
in anæmia of children, 575.
poisoning by homœopathic granules, 190.
Styptic colloid, 768.
Sudor Anglicanus, 458.
Suesserott, J. L., 138.
Sunstroke, congestion of lungs in, 796.
Surgical dressing, camphor and salicylic acid, 767.
Swayze, G. B. H., 290.
Sweating, fetid, 252.
unilateral, 428.
Swedish movement-cure, 257.
Syphilitic affection of the lung, 415.
endarteritis, 793.
laryngitis, secondary, 335, 622.
neuralgia, treatment of, 128, 146.
Syphilis and locomotor ataxia, 574.
and tubercle of throat, 637.
congenital, 805.
diseases of kidney dependent upon, 333.
hereditary, 429, 722.
hypodermics in, 146.
infantile, treatment of, 173.
in various countries, 623.

Syphilis, paralysis of cranial nerves in, 190.
paternal influence in hereditary, 52.
propagation of, by razors, 573.
singular case of, 759.

Tabes dorsalis, 270.
Tænia, treatment of, 190.
Tansy-poisoning, 346.
Tar, preparations of, 124.
Tartaric acid, 252.
Taylor, A. S., Medical Jurisprudence, review of, 158.
Telangiectasis, 414.
Temperature in tubercular meningitis, 414.
Tenaculum, uterine, 13.
Tendon reflex, 625, 661.
Tendons, plastic operations on, 526.
Tetanus, traumatic, 301.
treatment of, 447.
Thigh amputations, specimens of, 472.
Thomason, T. J., death of, 143.
Thompson, H., Clinical Lectures, review of, 248.
Thymol, 64.
glycerole of, 767.
in ringworm, 570.
Thyroid, suppuration of, 445.
Thyroiditis, 304.
Tibia, sarcoma of, 426.
Tibial epiphyses, fracture of, 27.
Tinea favosa, 586.
tarsi, 140.
treatment of, 50.
versicolor, 587.
Tinnitus aurium, 94.
Tobacco, 512.
culture of, 661.
Toes, dorsal disease of, 238.
Tongue, lipoma of, 303.
Tonsillitis, 251, 446.
Tonsillotomy, modified volsella for, 409.
Towels, sanitary, 253.
Tracheotomy in Laryngeal Diphtheria, review of, 90.
Transfusion, 319.
Tray, surgical, 13.
Trephining, 732.
Trichina, 256.
Trichinæ, destruction of, 575.
Trigeminal neuralgia, 831.
Tripoli a substitute for plaster of Paris, 464.
Trismus, treatment of, 447.
Tri-States Medical Society, 152.
Tube in cystitis with enlarged prostate and recto-vesical fistula, 170.
Tubercle and syphilis of throat, 637.
Tuberculosis and pregnancy, 80.
and scrofula, 336, 589.
artificial production of, new experiment in, 576.
inoculability of, 794.
Tumors, abdominal, treatment of, 15.
fibroid, of womb, treatment of, 188.
mammary, 181.
nerve, 181.
of Mammary Gland, Practical Treatise on, review of, 389.
of mediastinum, differential diagnosis of, 172.
Tumors, pulsating, below bend of elbow, 187.
soft fatty, treatment of, 575.
symptomatology of, 171.
two unusual, 402.
Tupelo tents for dilating the uterus, 573.
Turnbull, L., Imperfect Hearing, review of, 475.
Turnbull's monograph on Defective Hearing, 384.
Twin pregnancy, 744, 760.
Typhoid fever following transfusion, 319.
in child aged ten months, 593.
purulent infection in, 430.
sequelæ, 428, 829.
specific agent of, 185.
treatment of, 295, 312.
usual forms of death in, 639.
state, nitrite of amyl in, 167.
Tyson, James, Bright's Disease, review of, 702.

Ulcers of cervix uteri, 400.
tuberculous, of tongue, 81.
varicose, of leg, treatment of, 463.
virulent, treatment of, 204.
Umbilical hernia, operation for strangulated, 303.
University of Pennsylvania, 174, 191.
Urethra, double, 114.
foreign body in, 55.
Urethral fistula, 827.
irrigator, 284.
stricture, 126.
Urinary Organs, Disorders of, review of, 342.
Urine, incontinence of, in women, 670.
retention of, complicated with abscess, 218.
Urticaria, 672.
following use of salicylate of sodium, 372.
Uterine disease giving reflex symptoms in and about the eye, 581.
fibroids cured by pregnancy, 95.
hæmostatics, 28.
Uterus, fibroma of, 316.
foreign bodies in, 402.
malignant diseases of, 1.
treatment of fibroid tumor of, 188.
tupelo tents for dilating the, 573.

Vaccination, 705, 727, 768.
Vagina, epithelioma of, 348.
instrument for measuring, 407.
prolapse of, 240.
Vaginal chancres, 371.
Vaginitis, new method of treatment in, 560.
Vagus, removal of, 79.
Valves of heart, disease of, differential diagnosis, 215.
Van Buren, W. H., Diseases of the Rectum, review of, 539.
Varices, treatment of, 15.
Varicocele, 821.
cure and treatment of, 80.
Vaseline, 826.
Vaso-motor centres, condition of, in the new-born, 145.
Vaughn, V., Chemical Physiology, review of, 282.
Veins, resection of, 830.
Vertebra, fracture of, 109.
Vesical calculus, 632.
death after sounding for, 441.
catarrh, treatment by establishing urinary fistulæ, 300.
Vicarious menstruation from sebaceous tumor, 636.
Vienna as a medical school, 129.
Vinegar, manufacture of, 607.
Visceral atrophies, 526.
hemorrhage, atropia in, 798.
Vocal apparatus of alligator, 633.
Vomiting, chronic, treatment with koumiss, 479.
in phthisis, 199.
Vulvæ pruritus, 82.
Vulvitis, aphthous, 784.

Wadsworth, H. Nichols, 804.
Walker, Jerome, The First Baby, review of, 764.
Walsh, J. F., 369, 400.
Wasted opportunities, 760.
Water, to make potable, 448.
Watermelon-seeds, impacted, 64.
Wathen, Wm. H., 619, 808.
Weak eyes in public schools of Philadelphia, 673.
spines, and their treatment, 324.
Weather-changes, physiology of, 358, 390, 422.
Welch, W. M., 705.
Wells, Soelberg, Diseases of the Eye, review of, 121.
Wells's, Spencer, thousandth ovariotomy, 574.
West Philadelphia Medical Society, 544.
Wetherill, Henry M., 266, 331, 426.
Whales, 448.
Wharton, H. R., 718.
What will the end be? 625.
Whisky as an antiseptic dressing, 138.
Whitlow, 766.
Whooping-cough, nitrite of amyl in, 543.
treatment of, 284, 735.
Wickersheimer's preservative fluid, 288.
Willard, De F., 71.
Wilson, Augustus, 195.
Wilson, James C., Continued Fevers, review of, 764.
Wines, adulterations of, 652.
Winter-green, 786.
in purulent cystitis, 222.
Wood, H. C., 48, 289, 321, 655.
Fever, review of, 411.
Wood, Thomas, death of, 224.
Woodbury, Frank, 417.
Woodside, John, 106.
Wool-sorters' disease, 102.
Wounds of hand, 553.
Wrist-joint, dislocation at, 633.

Xanthelasma planum et tuberosum, universal, 759.
Xylotherapy, 31.

Young, science for the, 351.

Ziemssen's Cyclopædia, review of, 733.

3 1198 03124 6577
N/1198/03124/6577X

WERT
BOOKBINDING
MIDDLETOWN, PA
SEPT 75

3 1198 03124 6577
N/1198/03124/6577X